

APPENDIX A:
EXISTING TRAILS, BIKEWAYS & WALKWAYS

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APPENDIX A: EXISTING TRAILS, BIKEWAYS, AND WALKWAYS

The Town of Truckee’s location in the Sierra Nevada makes it a beautiful place to live, visit, or work. Some parts of the Town are relatively flat, others have extreme topography. Several natural and manmade water features fall within or just outside of the Town’s limits. The most significant water features are Donner Lake and the Truckee River. Other important water features include Donner Creek, Trout Creek, Prosser Creek, and Prosser Creek Reservoir. Truckee also has significant areas of open space.

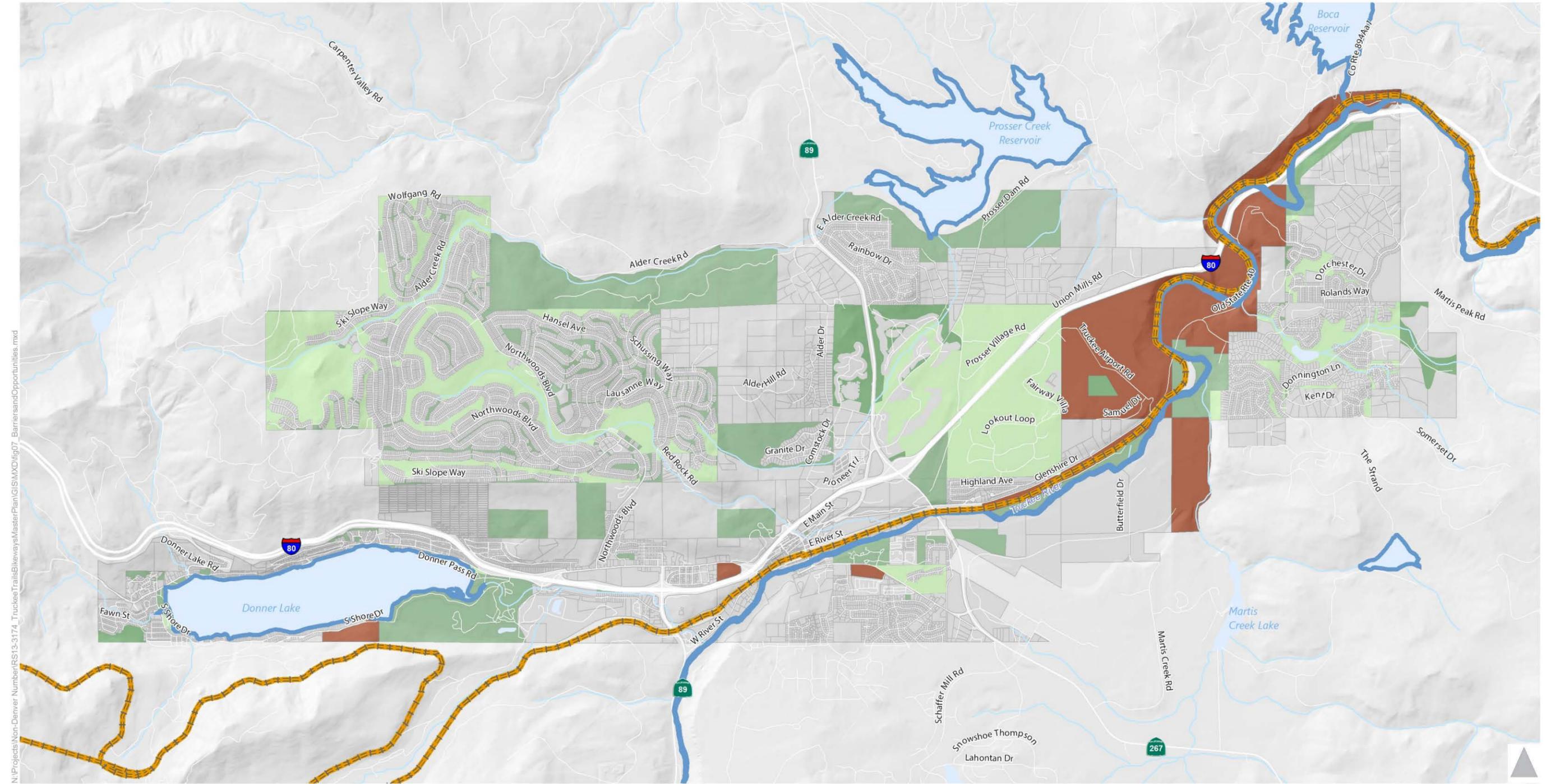
Two of the country’s most important transportation corridors bisect Truckee. Interstate 80 extends from the western to eastern Town limits. Important land uses in Town are located on both sides of Interstate 80. Additionally, the Union Pacific Railroad’s Trans Sierra Railroad extends from the southern to eastern Town limits. Limited crossings of both Interstate 80 and the railroad pose a challenge to local transportation in Truckee.

The Town’s terrain, water features, open space, and transportation corridors serve as both opportunities and barriers to trails, bikeways, and walkways. **Figure A-1** shows the locations of these opportunities and barriers.



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Figure A-1: Barriers & Opportunities



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Land Use Types

- Recreation
- Open Space
- Resource Conservation
- Rail
- Water

Source: Town of Truckee 2025 General Plan EIR

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EXISTING TRAILS & BIKEWAYS

LOCAL TRAILS & BIKEWAYS

The existing trail system in Truckee is characterized by a series of informal trails developed through many years of use which lacks cohesiveness and planned connections. Few formal trails exist, limited to the 60 mile trail system owned and maintained by the Tahoe Donner Association, the majority of which is located outside of Town limits, and a portion of the United States Forest Service maintained Commemorative Emigrant Trail. The ongoing development of the approximately 50-mile Donner Lake Rim Trail, the majority of which is also located outside of Town limits, will contribute to the cohesiveness of the Plan and provide critical regional connections.

Truckee has constructed several paved paths, including portions of the Truckee River Legacy Trail, the Pioneer Bike Path, paved trails in Gray's Crossing, and a paved trail on the north side of Brockway Road.

Truckee implemented its first bike lanes on Donner Pass Road in 1998. Since that time, the Donner Pass Road bike lanes have been extended and bike lanes have been constructed on other roadways, including Glenshire Drive, Northwoods Boulevard, and State Route 267. Bike routes exist on several of Truckee's low volume, residential streets.

Figure A-2 shows existing trails and bikeways in Truckee. **Table A-1** shows the length of existing trails and bikeways by classification.

TABLE A-1 LENGTH OF EXISTING TRAILS AND BIKEWAYS BY CLASSIFICATION

Classification	Mileage
Dirt Trail	13 ¹
Paved Trail (Class I)	18
Bike Lane (Class II)	38 ²
Bike Route (Class III)	32
Total	101

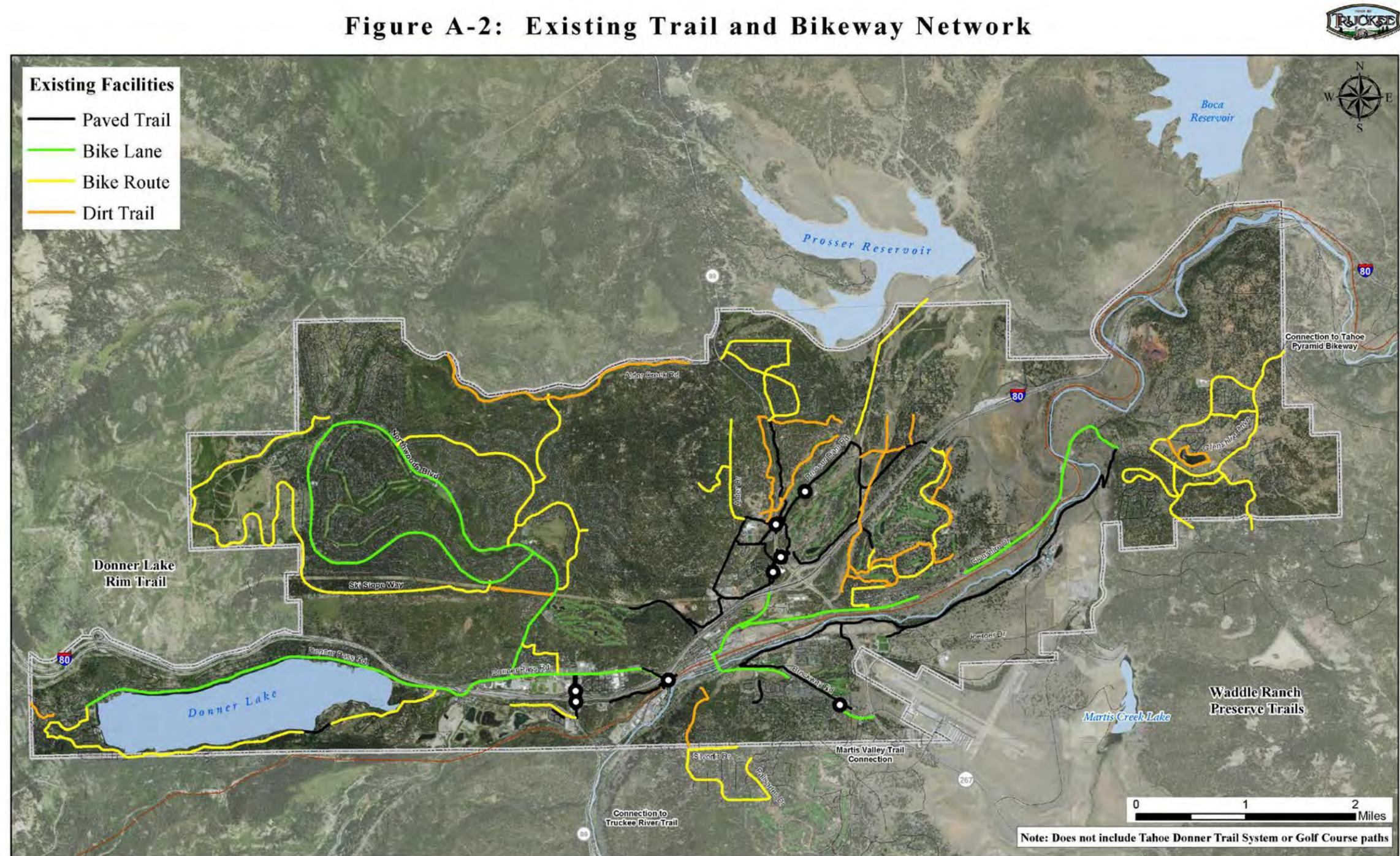
¹ Does not include Tahoe Donner Association trails

² One-way total of bike lanes

Source: Fehr & Peers, 2014

As shown in **Table A-1**, the Town has just over 100 miles of existing trails and bikeways.

Figure A-2: Existing Trail and Bikeway Network



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REGIONAL TRAILS & BIKEWAYS

The greater Truckee/North Lake Tahoe region encompasses a large geographic area, a multitude of government jurisdictions and many diverse environmental settings and conditions. The region includes the Placer County lands located south of the Town limits and extending into the northerly portion of the Lake Tahoe basin. The County of Nevada's jurisdictional boundaries encompass the majority of the Truckee town limits, including Donner Summit to the west; Carpenter Valley, Hobart Mills and Prosser Reservoir to the north; and Boca Reservoir and the Martis Valley (a portion of which is also in Placer County) to the west. Many state and federally owned lands are interspersed throughout both Placer County and Nevada County, most notably those owned and maintained by the United States Forest Service.

A network of informal unpaved trails has developed throughout the Truckee/North Lake Tahoe region, including the Pacific Crest Trail, Commemorative Emigrant Trail, Sawtooth Trail and Tahoe Rim Trail. A smaller network of formal trails exists within the many public lands around the region, including those at several ski resorts. However, these formal trails lack the necessary continuity to provide for effective use. Additional regional recreational trails planned by the United States Forest Service will contribute to the regional trail system.

There are many popular on-street bikeways that connect Truckee to the North Lake Tahoe region. State Route 89, State Route 267, and Old Highway 40 (Donner Pass Road) are regularly used by bicyclists for recreation and transportations. The connections are critical for facilitating regional travel by bike.

EXISTING WALKWAYS

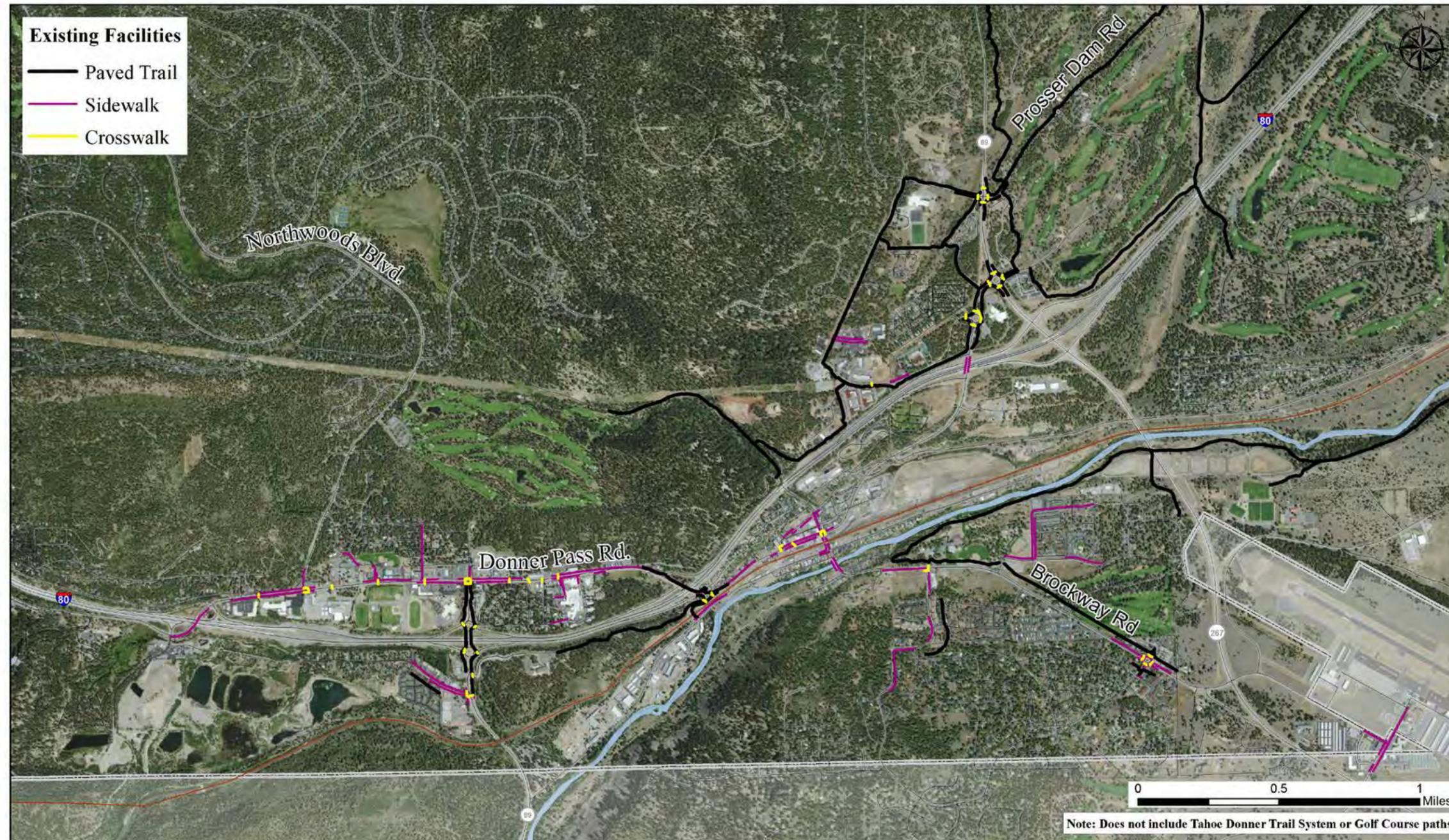
Walkways in Truckee primarily include sidewalks. In some cases, paved trails are provided in place of sidewalks. Sidewalks are provided on many of the Town's roadways, including Donner Pass Road, Deerfield Drive, and various roadways in Downtown Truckee or in residential neighborhoods. Paved trails that serve as walkways exist on State Route 89, Brockway Road, Comstock Drive, Pioneer Bike Path, and throughout Gray's Crossing.

Marked crosswalks are provided at approaches to most signalized intersections and at approaches to some stop-controlled intersections. Uncontrolled marked crosswalks exist at several locations that experience high pedestrian volumes. Many of these uncontrolled marked crosswalks are located on multi-lane roadways. Existing marked crosswalks feature a variety of standard marking patterns and high-visibility (continental) marking patterns.

Curb ramps, which make crosswalks, sidewalks, and paved trails accessible for wheelchairs, strollers, and bikes, are provided at most intersection corners. However, there are locations in the Town that are missing curb ramps or have existing curb ramps that do not meet current standards. The Town's Americans with Disabilities Act (ADA) Self-Evaluation and Transition Plan addresses funding for new curb ramps and other improvements for people with disabilities.

Figure A-3 shows the locations of existing sidewalks, paved trails, marked crosswalks, and curb ramps.

Figure A-3: Existing Walkways



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LAND USE PATTERN

Truckee includes a diversity of land uses. Residential land use consists primarily of single-family detached homes; however, there are several multi-family residential complexes. Commercial land uses range from downtown commercial in Downtown Truckee to neighborhood and regional commercial uses on Donner Pass Road north of Interstate 80. The Town also includes large areas of open space. **Figure A-4** shows these existing land use patterns.

Certain activity centers such as schools, commercial centers, municipal buildings, parks, and regional destinations require special emphasis because of their potential to attract bicycling and walking trips. The Trails & Bikeways Master Plan attempts to provide connections to as many of these activity centers as possible. **Figure A-5** shows the locations of major bicycle and pedestrian trip generators and attractors.

Currently, Truckee has two elementary schools (Truckee Elementary and Glenshire Elementary), one middle school (Alder Creek Middle School), and one high school (Truckee High School), and few private and alternative schools. Additionally, the Sierra Community College District has a campus in Truckee on College Trail near the Interstate 80/State Route 89 South interchange.

Downtown Truckee has several businesses, including shops, restaurants, and offices. Major commercial centers include Gateway at Donner Pass at the State Route 89/Donner Pass Road intersection (which includes Safeway, Rite Aid, and several other shops and restaurants), Truckee Crossroads at the State Route 89/Deerfield Drive intersection (which includes Save Mart), as well as several other shopping centers on Donner Pass Road and Brockway Road. Truckee has several bike shops which are regular destinations for bicyclists.

Major parks in Truckee include Truckee River Regional Park, Riverview Sports Park, the Truckee Community Recreation Center, and West End Beach Park, and several other smaller or special-purpose parks.

Other major destinations in Truckee include Tahoe Forest Hospital, the Truckee Amtrak Depot, the Truckee Donner Recreation & Parks District Community Center, and Truckee Town Hall.

MULTIMODAL CONNECTIONS

Tahoe Area Regional Transit (TART) and Truckee Transit are the primary transit providers in Truckee. They offer both fixed-route and demand-responsive service on a total of seven routes. Route operation varies seasonally.

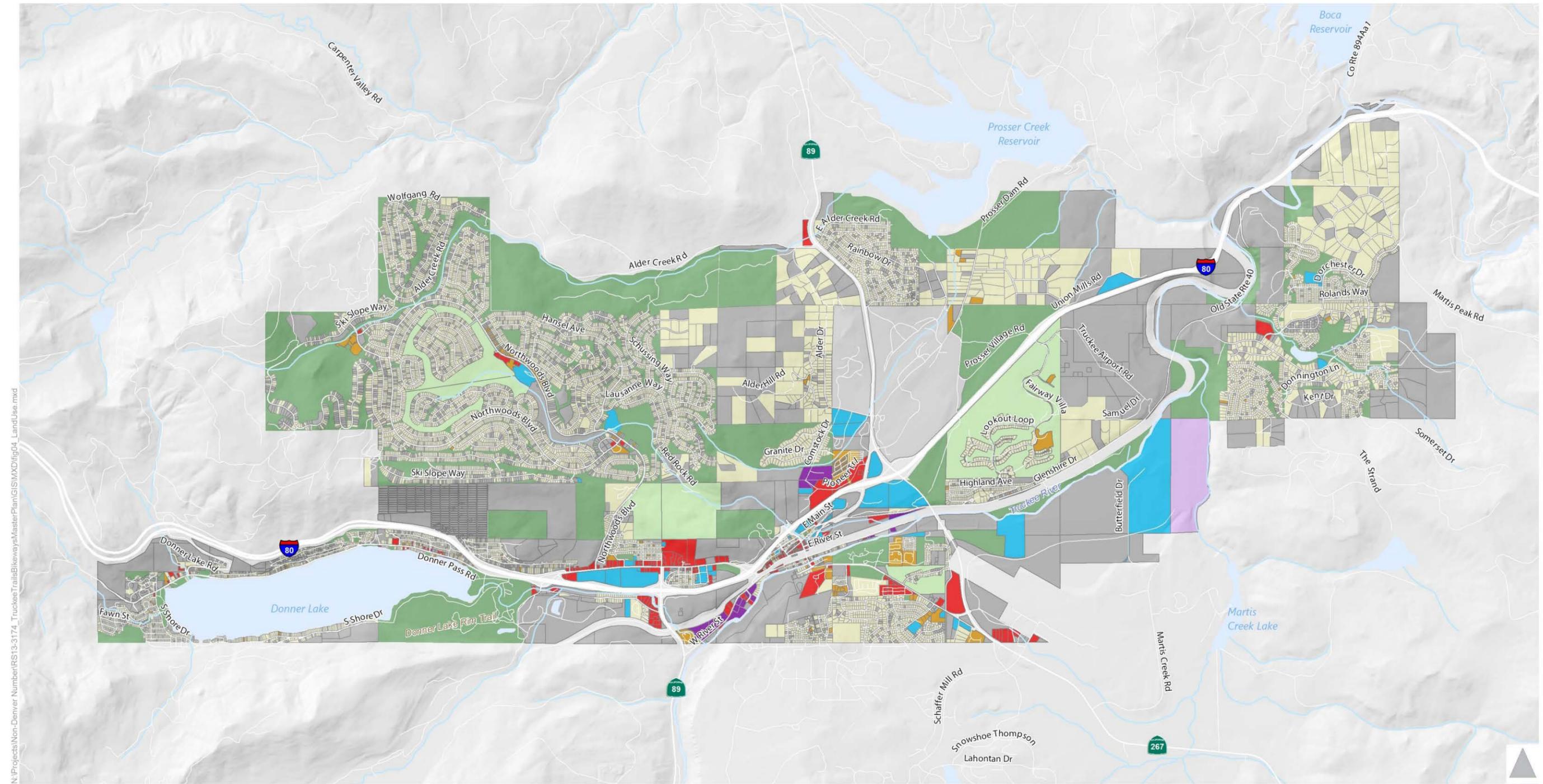
- TART Highway 89 Bus – year-round hourly service between Truckee and Tahoe City
- TART Highway 267 Bus – winter hourly service between Truckee and Crystal Bay
- Truckee Transit Non-Winter – hourly services between the Henness Flat Apartments and West End Beach
- Truckee Transit Winter – hourly service between the Henness Flat Apartments and Boreal Mountain Ski Resort
- Truckee Trolley Summer – hourly service between Truckee Tahoe Airport and West End Beach
- Truckee Trolley Winter Route A – winter hourly service between the Truckee Depot and Sugar Bowl Resort
- Truckee Trolley Winter Route B – winter hourly service between the Truckee Depot and Northstar California

All TART and Truckee Transit buses stop at the Truckee Amtrak Depot in Downtown Truckee, which serves as the multi-modal transfer location in Truckee. There, passengers can connect to Amtrak's California Zephyr that runs between the San Francisco Bay Area and Chicago. One eastbound train and one westbound train stop in Truckee every day.

All TART buses accommodate bicycles on front-mounted racks that hold either two or three bicycles. All bus bike racks are available on a first-come, first-served basis. Bikes are not allowed inside the bus at any time except on the last bus of the day per driver discretion.

Figure A-6 shows existing multimodal connections in Truckee, including existing TART routes, existing Truckee Transit Routes, and the Truckee Amtrak Depot.

Figure A-4: Existing Land Use Pattern



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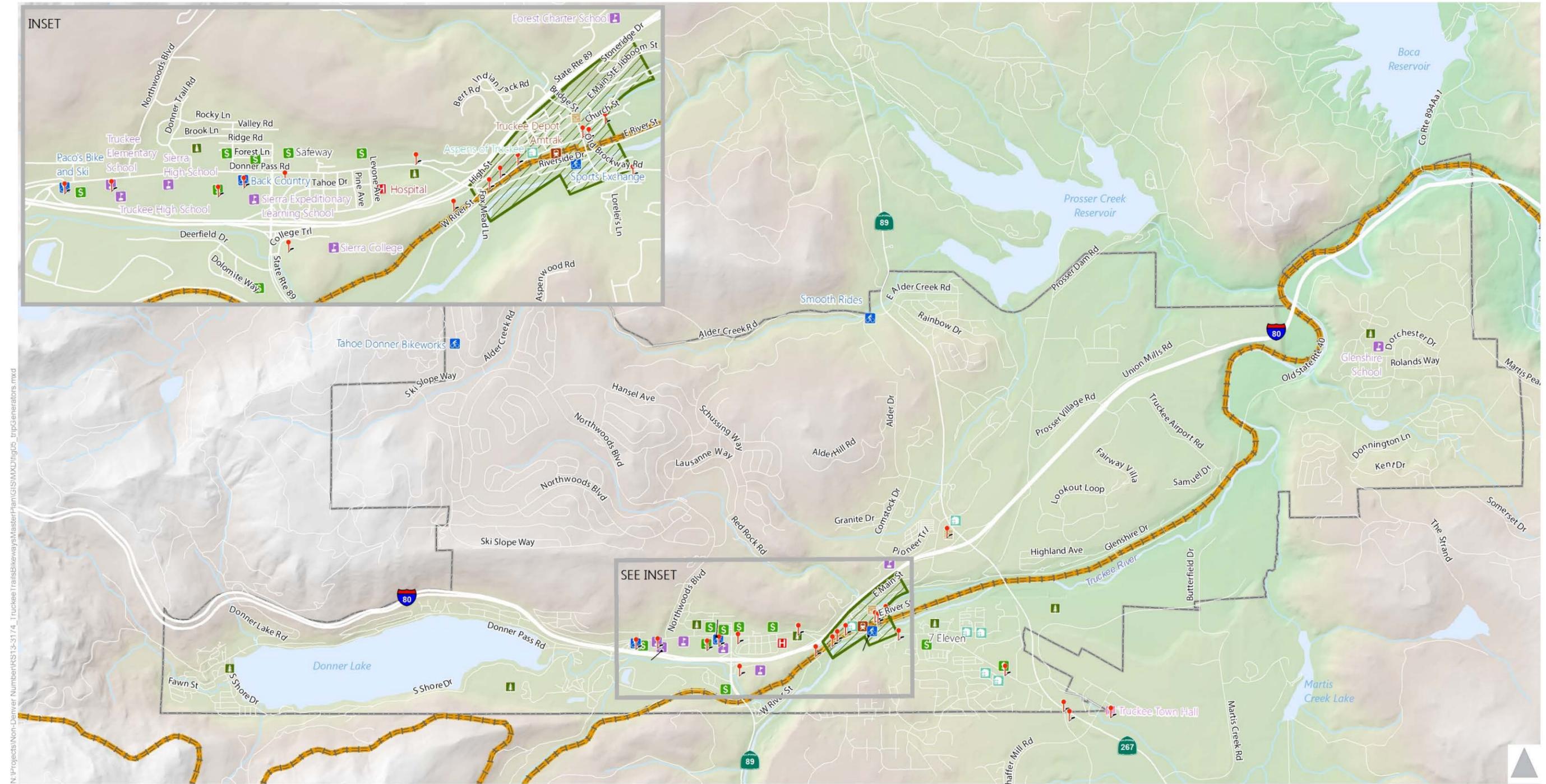
Source: Town of Truckee 2025 General Plan EIR

Existing Land Use Types

- | | | | | |
|-------------|------------|----------------------|--|--|
| Open Space | Industrial | Commercial/Office | Multi Family Residential (Includes Apartments, Duplexes, Mobile Homes, Condominiums) | Gray's Crossing Specific Plan (Residential, Commercial, Golf Course, Open Space) |
| Golf Course | Mining | Public/Institutional | Single Family Residential | Vacant/Undeveloped |

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Figure A-5: Trip Generators & Attractors

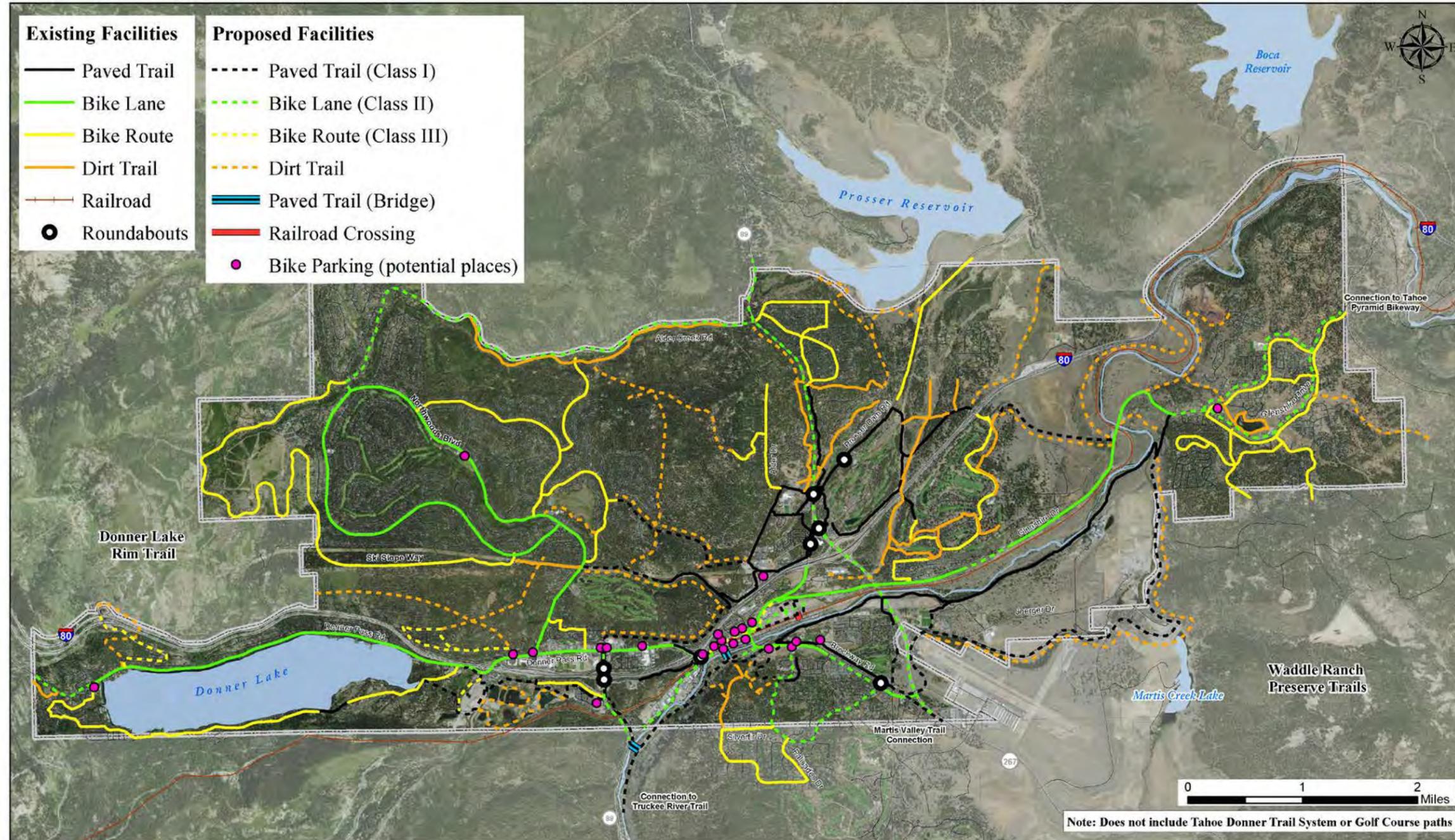


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- | | | | | |
|------------|----------------------|---------------------------------|-------|-----------------------|
| Bike Shop | Multi-Family Housing | Commercial Center/ Retail Store | Rail | Existing Bike Parking |
| Government | Recreation Center | Train Station | Water | Downtown Truckee |
| Hospital | School | Park | | |

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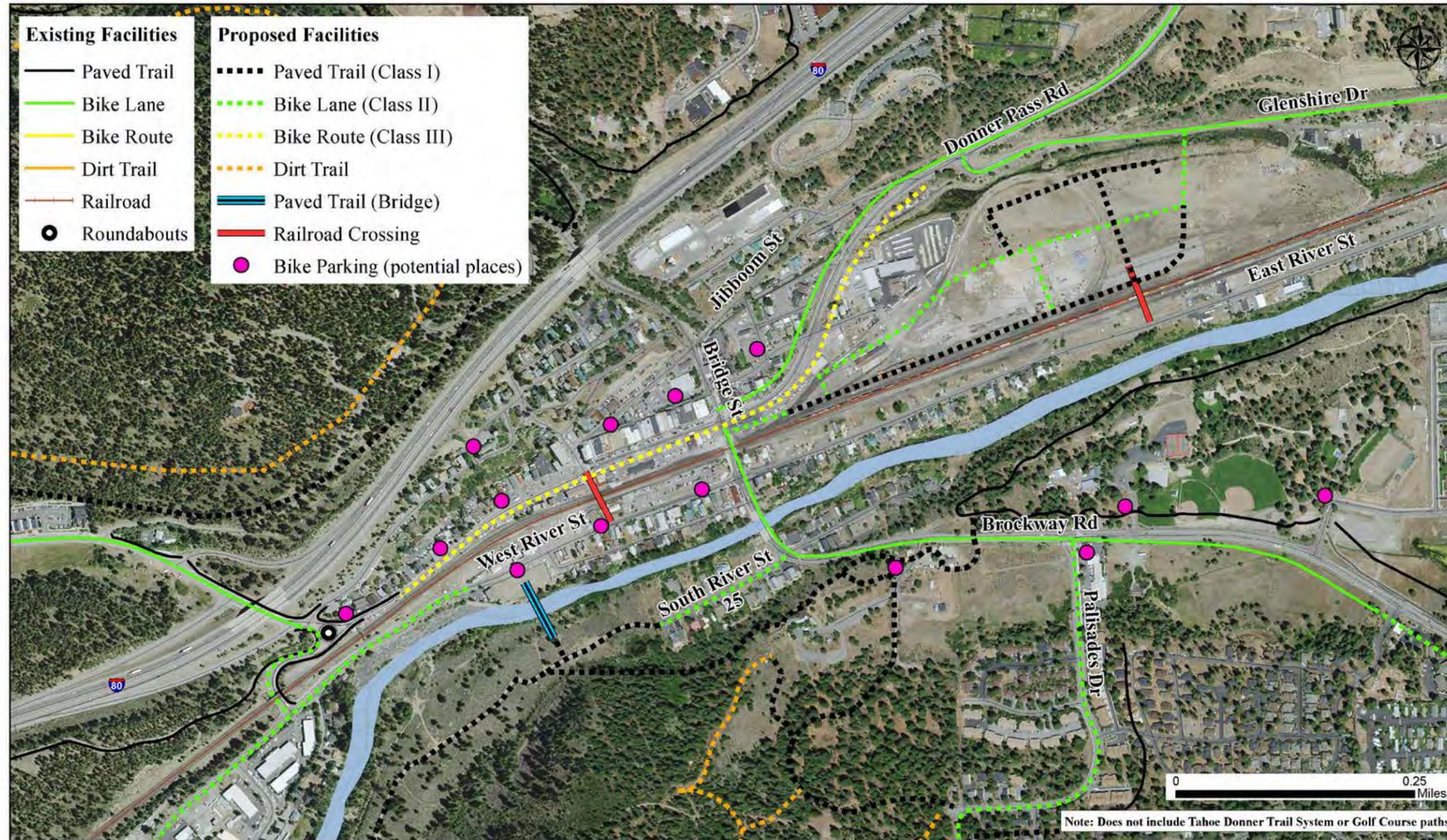
Figure A-5.1 Potential Bike Parking Areas in Truckee



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Figure A-5.2 Potential Bike Parking Areas in Downtown Truckee

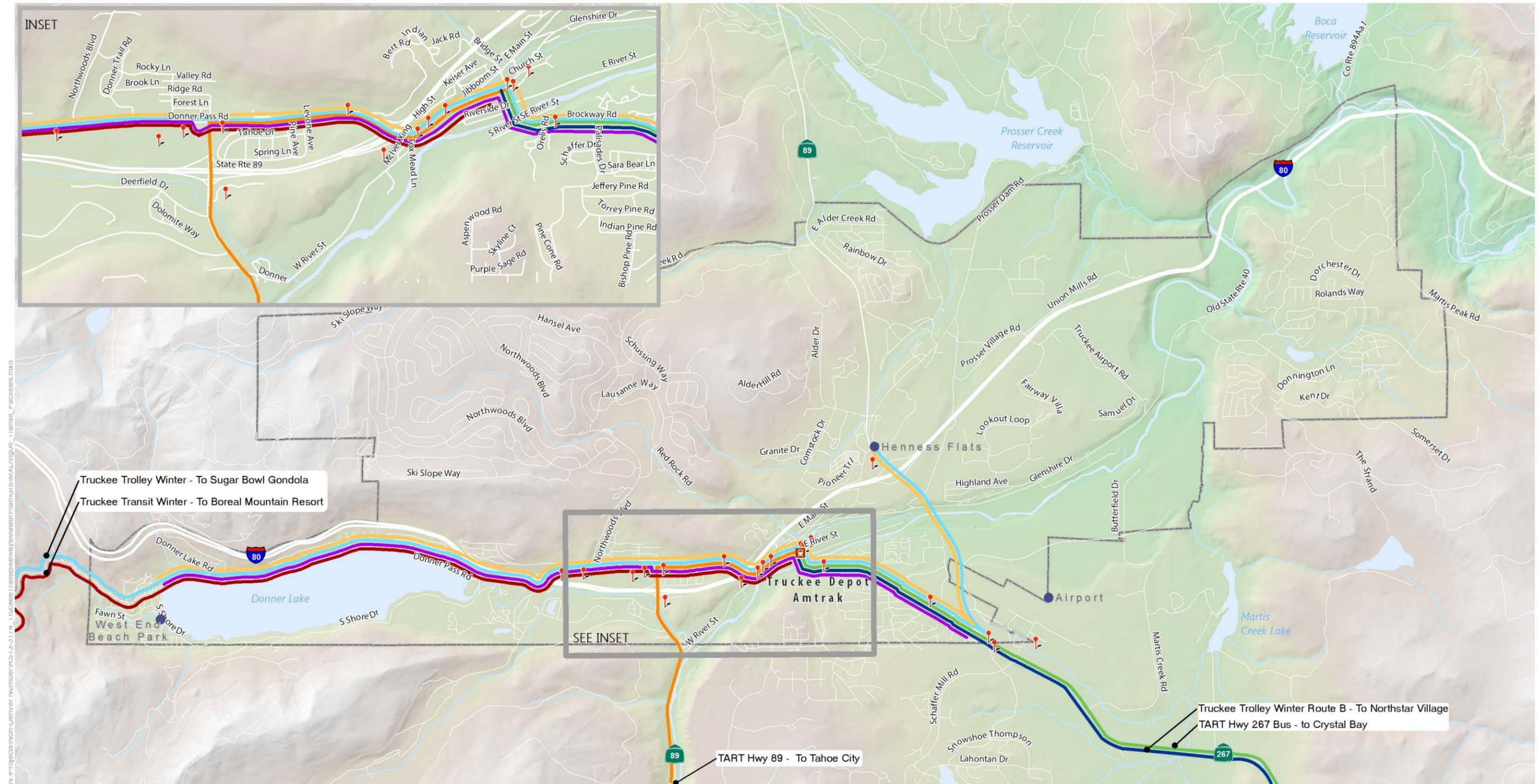


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2015 Trails and Bikeways Master Plan

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Figure A-6: Multimodal Connections



- Existing Transit Routes
- Tahoe Area Regional Transit (TART): Hwy 267 bus (Winter)
 - Truckee Transit: Non-winter (April 1 - mid December)
 - Truckee Trolley: Route A Sugar Bowl (Winter)
 - Truckee Trolley: Summer
 - Tahoe Area Regional Transit (TART): Hwy 89 bus
 - Truckee Transit: Winter (Mid December - March 30)
 - Truckee Trolley: Route B Northstar (Winter)
 - 🚲 Existing Bike Parking

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SAFETY

Five years of California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS) data for bicyclist-vehicle and pedestrian-vehicle collisions was reviewed to identify collision locations and trends in Truckee. **Table A-2** summarizes total, pedestrian-vehicle, and bicyclist-vehicle collisions occurring in Truckee between 2008 and 2012. **Figure A-7** shows the locations and severities of bicyclist-vehicle and pedestrian-vehicle collisions.

TABLE A-2 SUMMARY OF PEDESTRIAN-VEHICLE AND BICYCLIST-VEHICLE COLLISIONS 2008-2012

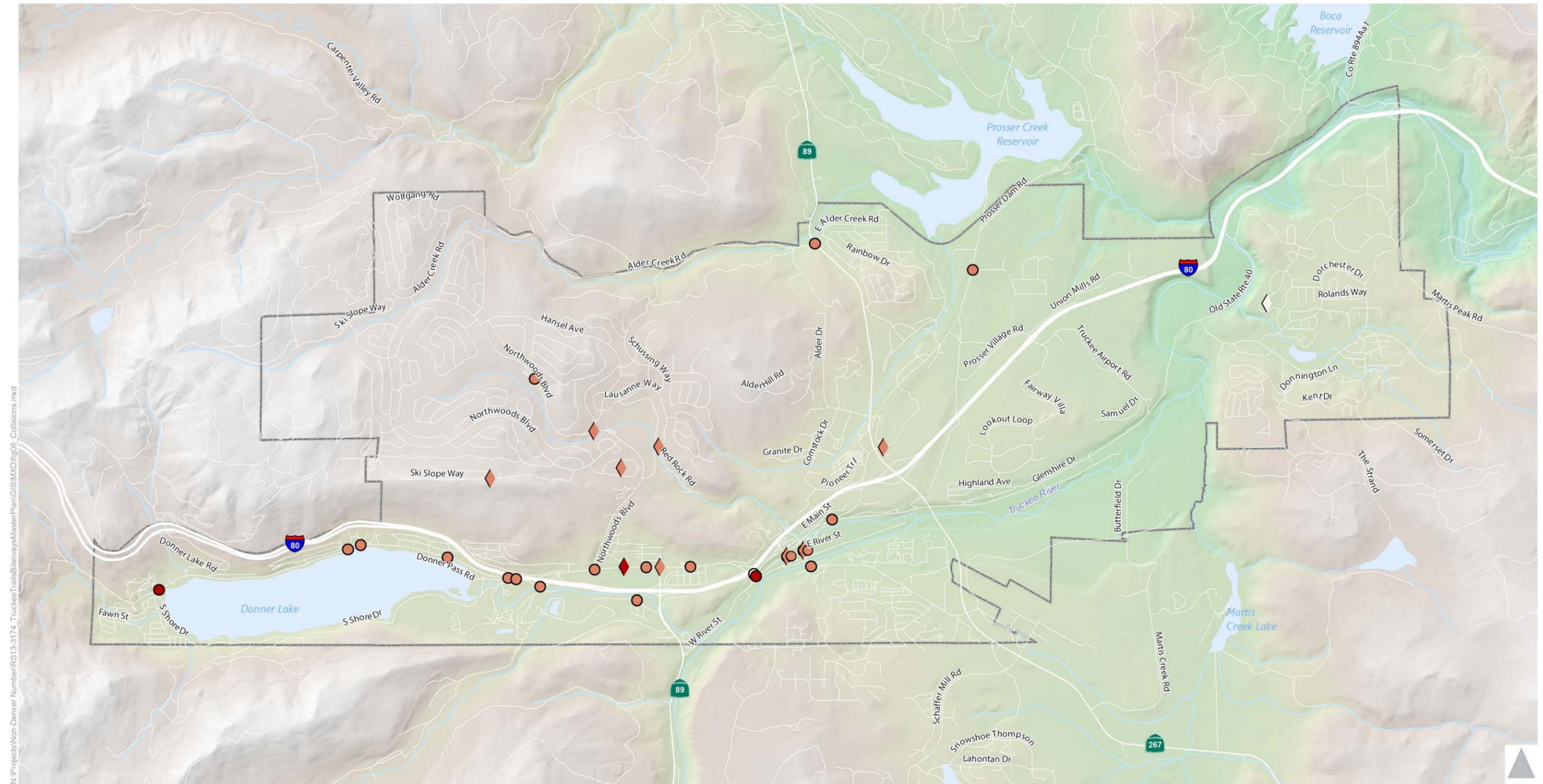
Year	Total Collisions			Pedestrian-Vehicle Collisions			Bicyclist-Vehicle Collisions		
	<i>Non-Injury</i>	<i>Injury</i>	<i>Fatal</i>	<i>Non-Injury (%)</i>	<i>Injury (%)</i>	<i>Fatal (%)</i>	<i>Non-Injury (%)</i>	<i>Injury (%)</i>	<i>Fatal (%)</i>
2008	132	51	0	0	3	0	1	4	0
2009	85	45	1	1	1	0	0	4	0
2010	112	36	0	0	2	0	0	2	0
2011	119	37	1	0	2	1	0	6	0
2012	42	28	2	0	2	0	1	2	2
Total	490	197	4	1 (<1%)	10 (5%)	1 (25%)	2 (<1%)	18 (9%)	2 (50%)

Source: California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS)

Table A-2 shows that pedestrian-vehicle and bicyclist-vehicle collisions account for 14 percent of all injury collisions and 75 percent of all fatal collisions in Truckee. Because pedestrians and bicyclists are particularly vulnerable in collisions with vehicles, infrastructure and programs aimed at reducing pedestrian or bicyclist injuries or fatalities could have a significant effect on reducing the Town's overall numbers of traffic-related injuries and fatalities.

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Figure A-7: Pedestrian-Vehicle & Bicyclist-Vehicle Collisions 2008-2012



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Accident Severity			
No Injuries	Injuries	Fatalities	
Bicycle	○	●	●
Pedestrian	◇	◇	◇

Source: Statewide Integrated Traffic Records System (SWITRS), 2008-2012. Retrieved January 29, 2014.

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SUPPORT FACILITIES FOR BICYCLING

A successful active transportation network requires more than trails, bikeways, and walkways. Facilities that support of the active transportation system such as trailheads and parking areas, restrooms and bicycle racks are necessary to encourage and attract users of the system.

TRAILHEADS

Trailheads without formal parking areas are intended to provide access to individual trail segments and the larger system. Trailheads are often located within very close proximity to residential areas and are easily accessible to nearby residents. If any vehicle parking is available in these areas, it is informal parking on the shoulders of the adjoining roadway or located nearby in existing public parking areas.

TRAILHEADS WITH PARKING AREAS

In Truckee, existing areas utilized for parking, including existing publically-maintained and owned parking areas, often serve as trailheads for the trail and bikeway system. Examples of these areas include:

- West End Beach
- Donner Memorial State Park
- Meadow Park
- Truckee River Regional Park
- Riverview Sports Park
- United States Forest Service, Truckee District Offices
- The east end of East River Street near the bridge across the Truckee River to the Truckee River Legacy Trail
- Legacy Trail trailhead off Glenshire Drive, on west end of Glenshire Subdivision

Additional parking areas are commonly and appropriately utilized throughout the community, although unimproved and informal. Examples of these areas include:

- Negro Canyon
- The east end of South Shore Drive south of Donner Lake
- Alder Creek Road west of State Route 89 where it connects to the Commemorative Emigrant Trail

- The unpaved areas on either side of the Interstate 80/Overland Trail interchange
- The unpaved areas on either side of the Glenshire Drive bridge over the Truckee River

RESTROOMS

The Town does not currently have any public restrooms specifically intended for trail and bikeway users; however, public restrooms are available at several parks that also serve as trailheads.

BICYCLE PARKING AND CHANGING FACILITIES

Short-term bicycle parking is provided at several locations in Truckee including Downtown, schools, commercial centers, parks, and municipal buildings. However, short-term bicycle parking is missing at many destinations. No long-term bicycle parking currently exists; however, many workers in Truckee may have the option of storing their bikes in their workspaces. **Figure A-5** shows confirmed locations of short-term bicycle parking in Truckee. **Figures A-5.1 and A-5.2** shows potential locations of short-term or long-term bicycle parking. These locations are generalized, rather than specific and are intended to highlight desirable areas for future bicycle parking. They could be located within private or public properties.

Truckee Town Development Code Section 18.48.090 requires the provision of bicycle racks for non-residential projects and multi-family residential projects with 11 or more dwelling units at a rate of five percent of the number of vehicle parking spaces. The Town Development Code also specifies bicycle parking design and devices; additional guidelines are included in the Trails & Bikeways Master Plan.

The Truckee Public Art Commission and the Tahoe Donner Regional Parks District are currently leading the Art Bike Rack Project, an artist-designed bike rack competition with the goal of supporting and encouraging bicycling in Truckee by providing bike racks that also function as artistic additions to the Town. Bike rack installation is expected in summer 2014.

Showers, lockers, and changing facilities are limited to Truckee's largest employers and businesses including the Town of Truckee, Tahoe Forest Hospital and Truckee Tahoe Lumber Company. The Town encourages new shower and locker installations with all new development projects. The Town Development Code provides incentives for new development projects which include showers and lockers. Incentives can include a waiver or modification to any development standard, granted only when a reduction in the project-generated vehicle trips can be demonstrated by the project proponent. Although any development standard may be reduced or waived as an incentive, a reduction in the required vehicle parking spaces will be most common due to the direct relationship between the inclusion of shower and locker facilities and vehicle traffic reduction.

PAST EXPENDITURES ON BICYCLE FACILITIES

The Town of Truckee has funded and constructed several trail, bikeway, and walkway projects in recent years. Additionally, the Town has committed funding to trail, bikeway, and walkway projects that are scheduled for construction in 2014-2016. **Table A-3** shows expenditures on trail, bikeway, and walkway projects by the Town over the past five years.

TABLE A-3 EXPENDITURES ON TRAIL, BIKEWAY, AND WALKWAY PROJECTS

Project	Limits	Status	Cost
Glenshire Drive bike lanes (Phase 1)	Highland Avenue to Berkshire Circle	Constructed	\$2.9 million
Glenshire Drive bike lanes (Phase 2)	Donner Pass Road to Highland Avenue	Constructed	\$3.4 million
Trout Creek Trail	Downtown Truckee to Northwoods Boulevard	Partially constructed	\$4.1 million
Truckee River Legacy Trail (Phase 3A)	Riverview Sports Park to Tahoe-Truckee Sanitation Agency (TTSA) Water Reclamation Plant	Constructed	\$1.0 million
Truckee River Legacy Trail (Phase 3B)	TTSA Water Reclamation Plant to Glenshire	Constructed	\$4.3 million
Brockway Road Trail (Phase 2)	Martis Valley Road to Truckee River Regional Park	Constructed	\$1.1 million
Stockrest Springs Trail	Donner Pass Road to US Forest Service Ranger Station	Constructed	\$63,000
Sierra College shared use path	Donner Pass Road/McIver Crossing roundabout towards Sierra College	Constructed	\$286,000
Total			\$17,149,000

Source: Fehr & Peers, 2014

Table A-3 shows that the Town has expended over \$17 million in recent years on trail, bikeway, and walkway projects.

EXISTING LEVELS OF BICYCLING & WALKING

The American Community Survey (ACS) is one of the only sources of data regarding existing levels of bicycling and walking in Truckee. The 2008-2012 ACS, shown in **Table A-4**, provides sample data about means of transportation to work. According to the 2008-2012 ACS, one percent of Truckee residents walk to work and less than one percent of Truckee residents bike to work. These figures are for work trips only and do not include trips made for recreational or other utilitarian purposes. Non-work trips, such as shopping or errands, are more likely to be made by walking or bicycling. Therefore, it is reasonable to believe that actual levels of walking and bicycling in Truckee are higher than determined by the ACS. ACS data does not distinguish between intra-jurisdiction and inter-jurisdiction trips; however, it is likely that the bicycle and walking mode shares are higher among individuals who both live and work in Truckee.

TABLE A-4 AMERICAN COMMUNITY SURVEY (ACS) MODE SHARE %, 2008-2012

Mode	Number of Commuters	Percentage
Bicycle	22	<1%
Walk	130	1%
Car, Truck, Van, or Motorcycle	7,677	89%
Public Transit	0	0%
Worked at Home/Other	844	10%
Total	8,673	100%

Source: Fehr & Peers, 2014

Based on the 2008-2012 ACS data, approximately 150 commuters bicycle or walk as their primary means of transportation to work, representing 300 trips per working day. Each commuter makes two trips each day: one trip from home to work and one trip from work to home.

SAFETY AND EDUCATION PROGRAMS

Bicycling and walking safety and encouragement programs for all ages are important for maximizing the use of active transportation modes.

Since 1990, the California Highway Patrol (CHP) Truckee Substation has organized safety courses throughout the community promoting roadway and bicycle safety. In cooperation with non-profit community groups, the CHP has also sponsored annual bicycle rodeos in the Truckee and North Lake Tahoe region. The CHP programs are supplemented by routine enforcement and distribution of bicycle safety and law literature produced in cooperation with the American Automobile Association.

Under contract with the Nevada County Sheriff's Office (NCSO), limited bicycle safety and education programs were offered to the Truckee community. A local bicycle safety and education program was implemented for two years commencing in 1997 under the NCSO Traffic Division, however lapsed due to lack of grant funding supporting this program. A renewed commitment to bicycle safety and education was made an integral component of the Truckee Police Department in 2001. Truckee Police attend various community events to distribute free bike helmets for children and participate in bicycle rodeos at local schools. In addition, free bike helmets for children are distributed at the police station upon request any time during business hours.

The Truckee Donner Parks & Recreation District promotes safe bicycling through safety signage along all district-maintained trails and includes a safety education component within their bicycle maintenance course offered during summer. TDRPD also teaches safe bicycling to children as part of their Adventure Camp program targeting fourth through sixth graders held three to four times per year.

Additional safety and education programs for both bicyclists and/or equestrians are provided through the United States Forest Service-supported Tread Lightly Program, Truckee Junior Horseman, Safe Routes to Schools, Share the Road Program and the International Mountain Bike Association (IMBA). In 2012, the Truckee Pump Park opened to mountain bicyclists with funding and design guidance from IMBA.

The Truckee Trails Foundation (TTF), with grant funding from the Tahoe Truckee Community Foundation, conducts annual "Safe Bike Days" at the local Family Resource Center. The purpose of these events is to provide free bike repairs to lower income families in the Truckee area, some of whom rely almost exclusively on bicycles as a source of transportation. Bicycle mechanics are hired by the Truckee Trails Foundation and fix up to 20 bikes at each event. TTF has also provided free bike helmets to children, along with safe bicycling lessons as they wait for the bikes to be fixed. In 2010, TTF helped to implement programs for Safe Routes to School by developing a curriculum guide for teachers on walking and bicycling safety, sponsoring a bike safety-themed coloring contest, and distributing reflectors for children's backpacks.

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APPENDIX B:
ACTIVE TRANSPORTATION PLAN CONFORMITY

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APPENDIX B: ACTIVE TRANSPORTATION PROGRAM CONFORMITY

The California Department of Transportation (Caltrans) Active Transportation Program (ATP) requires the following elements be included in a plan to encourage active modes of transportation

Location in Trails & Bikeways Master Plan	Action Transportation Program Required Element
Appendix A, Page A-28	The estimated number of existing bicycle trips and pedestrian trips in the plan area, both in absolute numbers and as a percentage of all trips, and the estimated increase in the number of bicycle trips and pedestrian trips resulting from implementation of the plan.
Appendix A, Page A-21	The number and location of collisions, serious injuries, and fatalities suffered by bicyclists and pedestrians in the plan area, both in absolute numbers and as a percentage of all collisions and injuries, and a goal for collision, serious injury, and fatality reduction after implementation of the plan.
Appendix A, Page A-13	A map and description of existing and proposed land use and settlement patterns which must include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, major employment centers, and other destinations.
Page 32	A map and description of existing and proposed bicycle transportation facilities.
Appendix A, Page A-25	A map and description of existing and proposed end-of-trip bicycle parking facilities.
Appendix A, Page A-26	A description of existing and proposed policies related to bicycle parking

	in public locations, private parking garages and parking lots and in new commercial and residential developments.
Appendix A, Page A-26	A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These must include, but not be limited to, parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.
Page 41	A map and description of existing and proposed pedestrian facilities at major transit hubs. These must include, but are not limited to, rail and transit terminals, and ferry docks and landings.
Appendix E	A description of proposed signage providing wayfinding along bicycle and pedestrian networks to designated destinations.
Chapter 7	A description of the policies and procedures for maintaining existing and proposed bicycle and pedestrian facilities, including, but not limited to, the maintenance of smooth pavement, freedom from encroaching vegetation, maintenance of traffic control devices including striping and other pavement markings, and lighting.
Appendix A, Page A-28	A description of bicycle and pedestrian safety, education, and encouragement programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the law impacting bicycle and pedestrian safety, and the resulting effect on accidents involving bicyclists and pedestrians.
Page 12	A description of the extent of community involvement in development of the plan, including disadvantaged and underserved communities.

<p>Page 18</p>	<p>A description of how the active transportation plan has been coordinated with neighboring jurisdictions and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, general plans and a Sustainable Community Strategy in a Regional Transportation Plan.</p>
<p>Appendix D</p>	<p>A description of the projects and programs proposed in the plan and a listing of their priorities for implementation, including the methodology for project prioritization and a proposed timeline for implementation.</p>
<p>Appendix A, Page A-27 Page 43</p>	<p>A description of past expenditures for bicycle and pedestrian facilities and programs, and future financial needs for projects and programs that improve safety and convenience for bicyclists and pedestrians in the plan area. Include anticipated revenue sources and potential grant funding for bicycle and pedestrian uses.</p>
<p>Chapter 6</p>	<p>A description of steps necessary to implement the plan and the reporting process that will be used to keep the adopting agency and community informed of the progress being made in implementing the plan.</p>
<p>Appendix G</p>	<p>A resolution showing adoption of the plan by the city, county or district. If the active transportation plan was prepared by a county transportation commission, regional transportation planning agency, MPO, school district or transit district, the plan should indicate the support via resolution of the city(s) or county(s) in which the proposed facilities would be located.</p>

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APPENDIX C:
SUMMARY OF PUBLIC OUTREACH

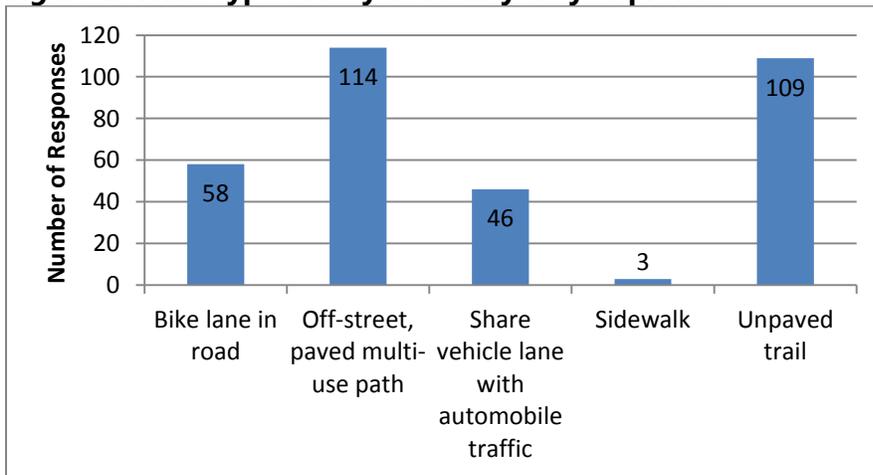
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Public Comment

Feb 26, 2014 Workshop and Online Survey

Residents preferred off-street bicycle paths, paved and unpaved, by far at 223 responses. 58 people stated a preference for in road bike lanes, while 46 people preferred a shared vehicle lane with automobile traffic. Only 3 people said that they preferred to use the sidewalk to ride a bicycle (Figure 1).

Figure 1: What type of bicycle facility do you prefer?



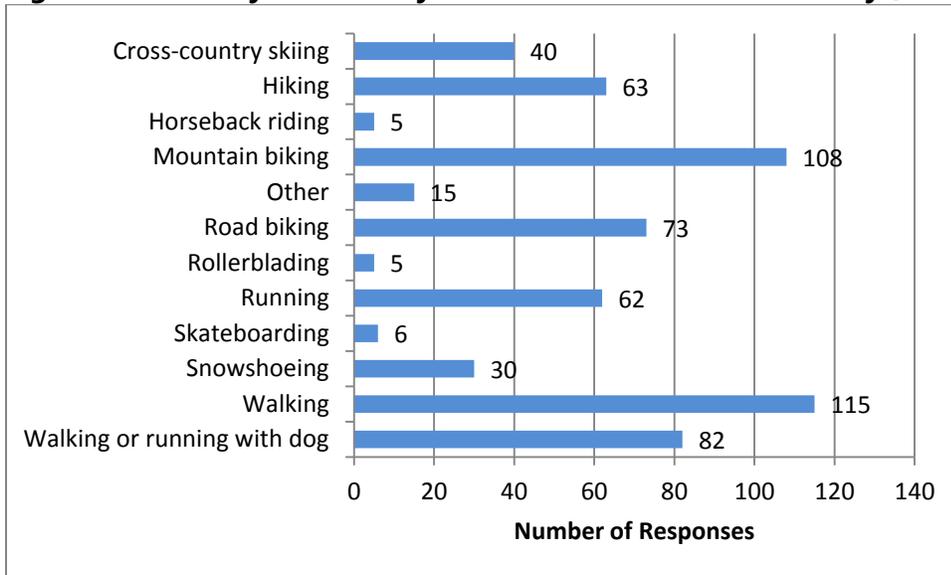
As with bikeways, the most preferred types of walkways supported recreational use. 34 respondents preferred off street bicycling and walking paths; an equal number favored hiking trails. 7 respondents stated a preference for sidewalks (Figure 2).

Figure 2: What type of walkway do you prefer?



Walking was the most popular activity using Truckee’s trails and bikeways at 115 responses; mountain biking followed closely at 108 responses. Other popular uses of trails and bikeways included road biking, hiking, running, and walking or running with a dog, ranging from 63 to 82 responses (Figure 3).

Figure 3: How do you currently use Truckee’s trails and bikeways, if at all?



The Truckee community is very active. The majority of people, 40% responded that they use trails a few times a week. 18% of respondents use trails once a week, while 22% of respondents use trails one to two times per month (Figure 4). Since many people are using trails to ride their bikes, not surprisingly, responses for how often people ride their bicycles was very similar to how often one uses the trails. 37% of people rode their bicycle a few times a week (Figure 5).

Figure 4: On average, how often do you use the trails?

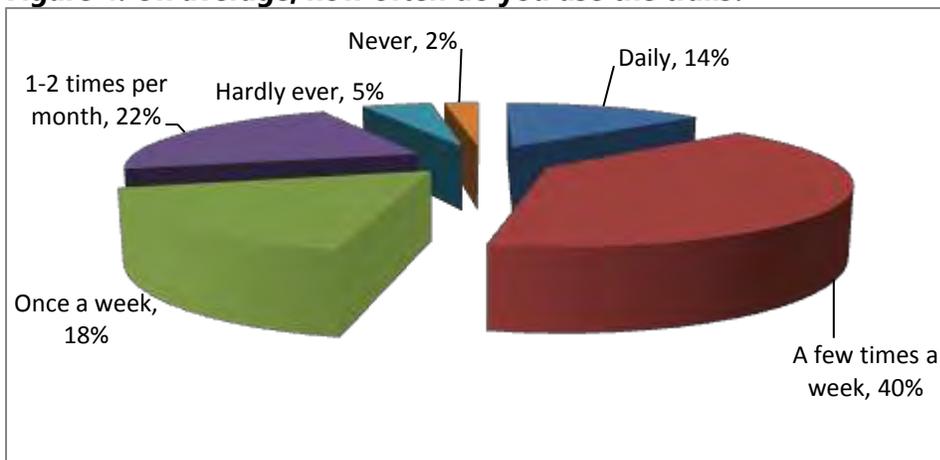
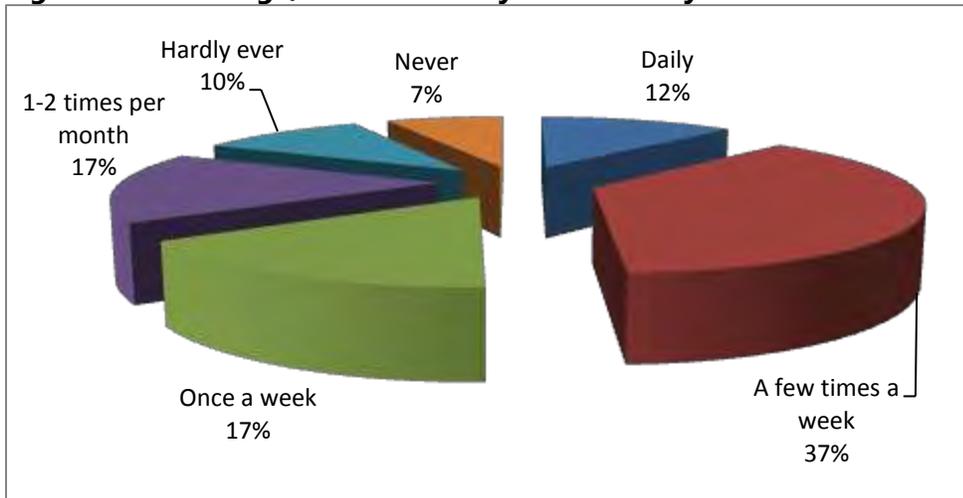
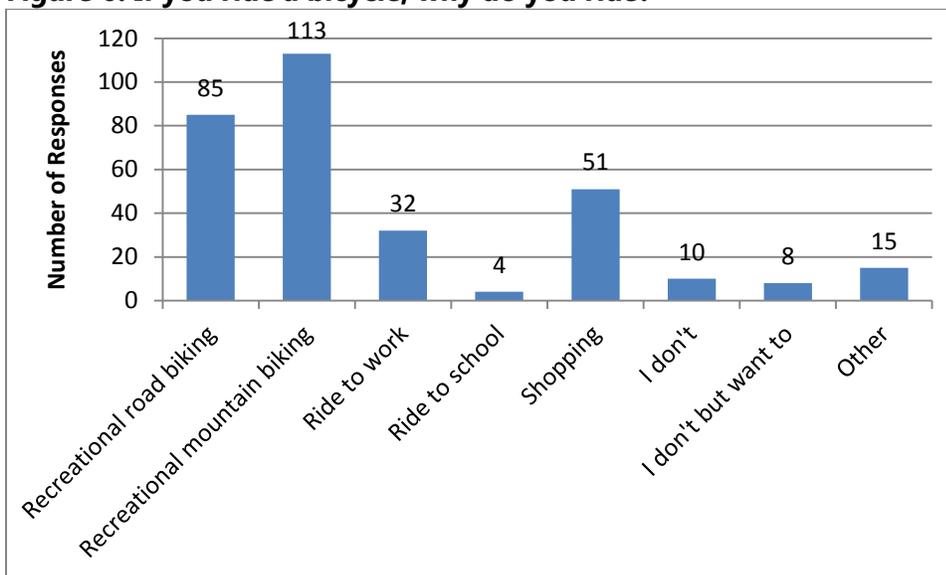


Figure 5: On average, how often do you ride a bicycle?



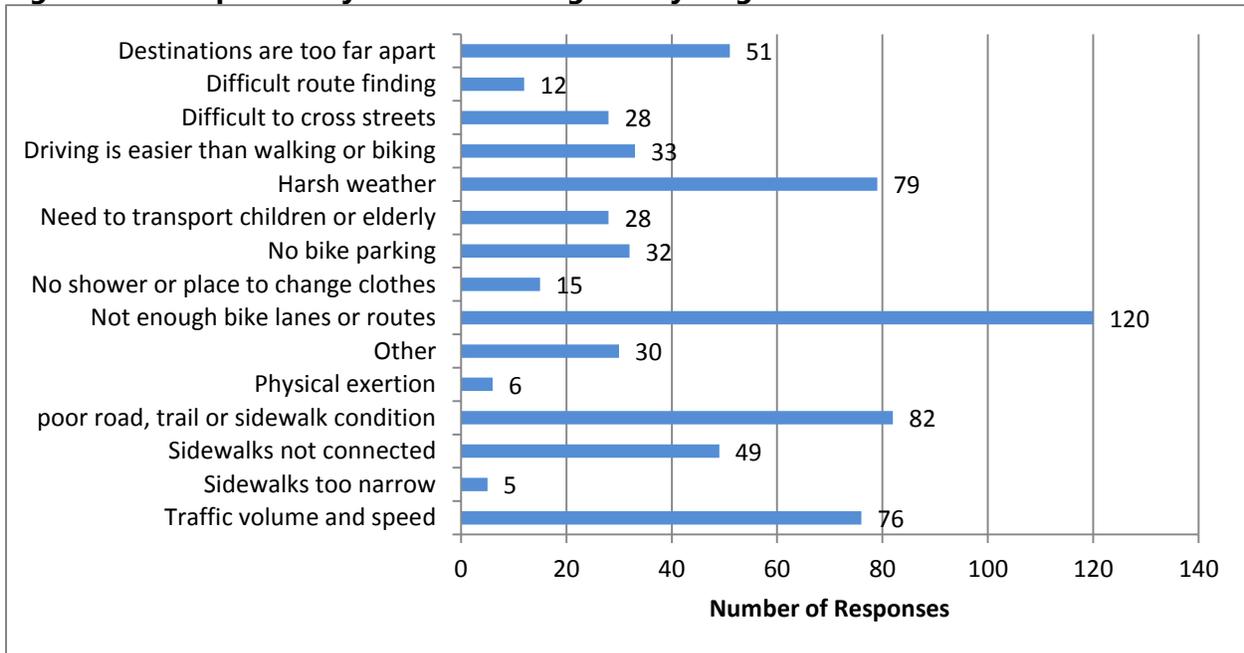
Residents had many reasons to ride a bicycle. The most common reasons to ride a bicycle were for recreation and exercise by mountain bike or road bike at 113 and 85 responses respectively (Figure 6).

Figure 6: If you ride a bicycle, why do you ride?



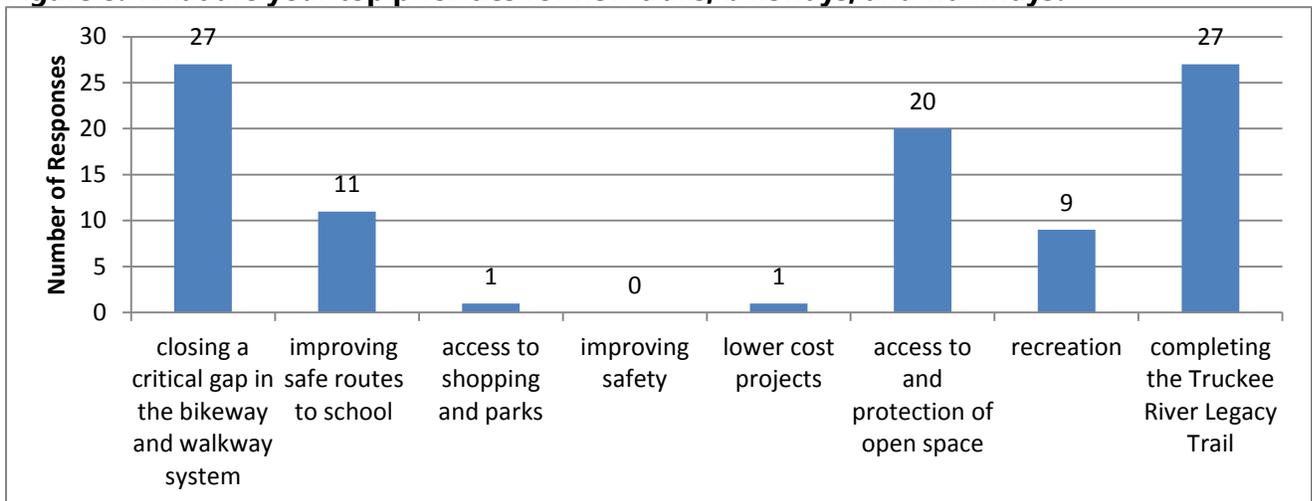
The top reason for not walking or biking more often was that there are not enough bicycle lanes or routes at 120 responses (Figure 7). Harsh weather, poor facility condition, and traffic volume and speed were also cited as among the most common reasons preventing respondents from walking or biking more often.

Figure 7: What prevents you from walking or bicycling more often in Truckee?



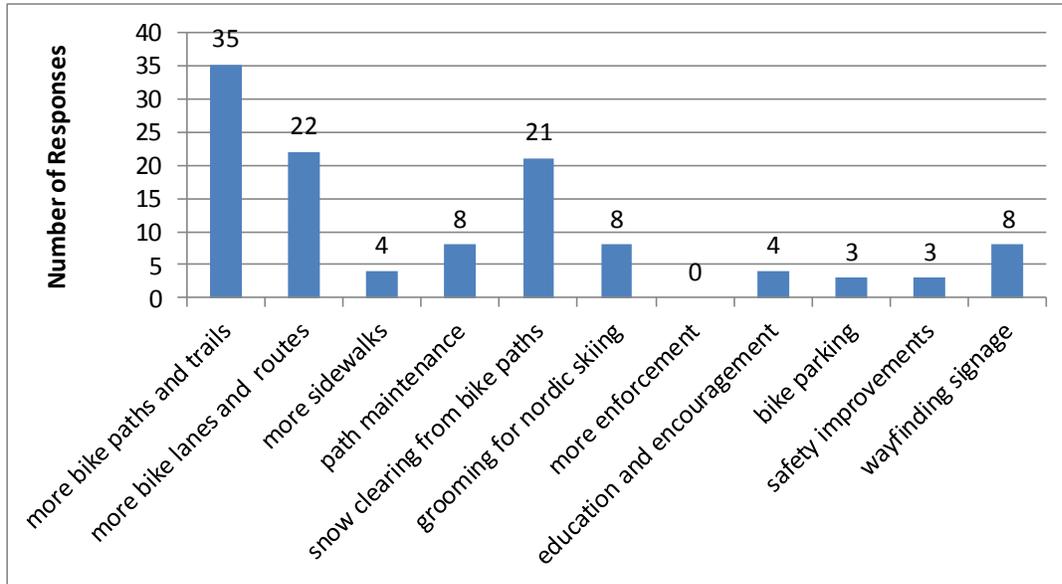
The top three priorities for new trails, bikeways and walkways were completing the Truckee Legacy Trail, closing a critical gap in the bikeway and walkway system, and access to and protection of open space (Figure 8).

Figure 8: What are your top priorities for new trails, bikeways, and walkways?



Residents expressed the most interest in seeing funds spent for more bike paths, trails, lanes and routes (47 responses), as well as snow clearing from paths for winter use (21 responses) (Figure 9).

Figure 9: How should money for bikeways and walkways be spent?



Adding new bike facilities to directly access key destinations and to close critical gaps were the most popular suggestions to the Town as a way to improve bicycling and walking in Truckee at 128 and 88 responses respectively (Figure 10).

Figure 10: What can the Town do to improve conditions for bicyclists, pedestrians, and other trail users?

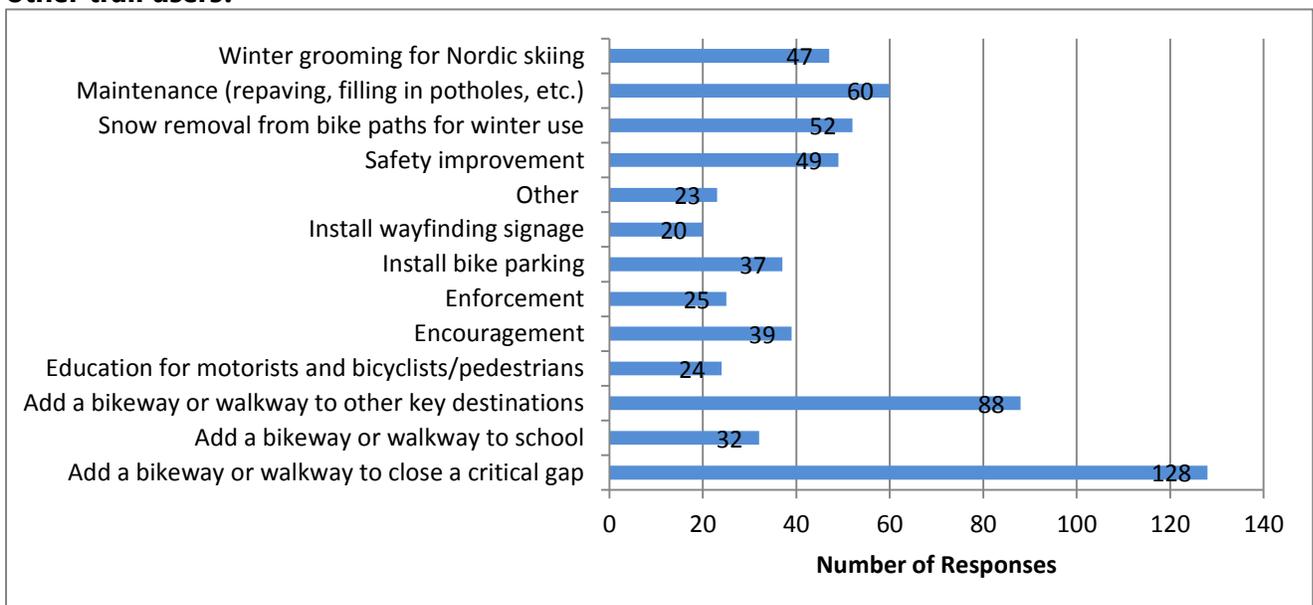




Table 1: Top twelve locations in Truckee where it is difficult to walk or ride a bicycle

Ranking	Segment Description	Number of Responses
1	Glenshire Dr from Donner Pass Road to Dorchester Dr loop	54
2	Donner Pass Rd through Downtown	45
3	Bridge St/Brockway, Donner Pass Rd to Regional Park	43
4	West River St from Brockway to southern Town limit	31
5	Donner Pass Rd from Northwoods Dr to McIver	18
6	Hwy 267 from I-80 to southern Town limit	15
7	Mousehole	12
8	Truckee Legacy Trail	10
9	Ped Bridge	9
10	Brockway Rd from Regional Park to Hwy 267	9
11	Hwy 89S from Donner Pass Road to southern City limit	9
12	Northwoods Blvd from Donner Pass Rd to Tahoe Donner	9
	Total	264

Table 2: Top five favorite places to walk or ride a bicycle in Truckee

Ranking	Segment Description	Number of Responses
1	Truckee Legacy Trail	47
2	Donner Lake Rim Trail	28
3	Martis Valley	16
4	Glenshire	14
5	Donner Pass Rd, through town	10
	Grand Total	115



April 1, 2014 Workshop and Online Survey

Which bikeway project is most important to you? (Choose up to 4 projects.)

Project	Total Votes
1. Class II bike lane on Bridge St/Brockway from Donner Pass Rd to Regional Park	15
2. Class II bike lane on Glenshire Dr and Dorchester Dr	20
3. Class II bike lane on Alder Creek Rd	10
4. Pedestrian bridges over Truckee River	21
5. Railroad crossing between E River St and Railyard	6
6. Truckee Legacy Trail from SR 89 to Donner Memorial State Park	39
7. Class II bike lanes on Donner Pass Rd from Keiser to Hwy 89	2
8. Class II bike lanes on E River St from Bridge St to E River St East end	2
9. Class III bike route on Donner Pass Rd through Downtown	13
10. Truckee Legacy Trail, Phase 4, from Regional Park to SR 89	52
11. Class II bike lane on Hwy 89S from Donner Pass Road to southern City limit	2
12. Class I bike path connecting Truckee River Trail along Martis Dr to Brockway	17
13. Class II bike lane on Hwy 89N from Recreation Center to northern Town limit	6
14. Class II bike lane on Brockway Rd from Regional Park to Hwy 267	4
15. Class I bike path from Downtown to Mogul	23
16. Class II bike lane on Palisades Dr from Brockway Rd to Ponderosa	2
17. Class II bike lane on Martis Valley Rd and Ponderosa Dr	3
18. Class II bike lane on Prosser Dam Rd	6
19. Class I bike path from Comstock to Trout Creek Trail	2
20. Class II bike lane on Joerger Rd and Soaring Way toward Truckee River Trail	5
21. Class I paths through the Coldstream planned development near Donner Memorial State Park	9
22. Class I and II bike path and lane through Hilltop area	3
23. Tahoe Pyramid Bikeway	24
24. Class I bike path from north end of Frates Ln to Donner Pass Road at Levon Ave	6
25. Class I bike path from Olympic Heights to Downtown	6
26. Class I bike path from Glenshire neighborhood to Prosser Area	27
27. Class I bike path from Glenshire Dr to Highland Ave	5
28. Class I bike path from Recreation District to Donner Pass Road parallel to Hwy 267	5
29. Recreational earthen trail from east end of Donner Lake to Donner Summit and From Donner Lake to Tahoe Donner	17
30. Recreational earthen trail from Gateway to Tahoe Donner at Clubhouse	10
31. Recreational earthen trails from Beacon Road extension in Prosser Lake Heights to Emigrant Trail and the east end of Tahoe Donner to Emigrant Trail	6
32. Recreational earthen trail from Hwy 89 at Alder Dr to Forest Service lands/Prosser Reservoir	8
33. Recreational earthen trail connecting Glenshire Dr to existing recreational trails north of Olympic Heights	6
34. Prosser Village Interchange at I-80 to Prosser Reservoir following Station Creek	1
35. Recreational earthen trail from Glenshire Dr at Glenshire Bridge north to Prosser Creek	16



36. Recreational earthen trail connecting Truckee River access to Glenshire neighborhood from Archery View	12
37. Truckee River Trail to Martis Valley following Martis Creek	10



Which walkway project is most important to you? (Choose up to 2 projects.)

Project	Total Votes
1. Donner Pass Road through Downtown	46
2. Donner Pass Road from Northwoods to McIver	18
3. W River St	31
4. E River St	9
5. Riverside Dr	4
6. Jiboom St	18
7. Bridge St/Brockway Rd from north end of Bridge St to Palisades Dr	29
8. Martis Valley Rd	9
9. Brockway Rd from roundabouts south toward Hwy 267	11
10. Palisades Dr	4
11. E Main St	0
12. Keiser Ave	0
13. Donner Pass Road from Keiser Ave to I-80	4
14. Cold Stream Rd	5
15. Estates Dr	1
16. Spring St	3
17. Church St and School St	3
18. Donner Trail Rd	5
19. Meadow Way	1

The Town of Truckee will develop a winter maintenance strategy to clear snow from high priority bike paths. At this time, the Town proposes NOT to groom bike paths for Nordic skiing. Do you agree?

- 73% - Yes
- 27% - No



If the Town clears snow from high priority bike paths, which is your highest priority?

- Truckee River Legacy Trail – 61 votes
- Pioneer Trail – 11 votes
- Brockway Road Trail – 11 votes
- Comstock Trail – 1 vote

APPENDIX D:
PROJECT COMMUNITY SUPPORT AND
COMMUNITY BENEFIT SCORING

Paved Trails

Roadway/Trail	Project Limits	Segment No.	Distance (miles)	Project Cost	Community Rating (2-6)	Gap Closure Rating (0-3)	Recreational Use Rating (0-3)	Transportation Rating (0-3)	Overall Rating	PRIORITY
Tahoe Donner Trail	End of Trout Creek Trail Phase I to Northwoods Blvd.	2	0.7	\$ 2,000,000	6	2	3	2	13	High
Truckee River Legacy Trail Phase 5A	SR 89 to Coldstream	3	1.5	\$ 2,250,000	6	2	3	2	13	High
Truckee River Legacy Trail Phase 5B	Coldstream to Donner Memorial State Park	4	0.8	\$ 1,250,000	6	2	3	2	13	High
Truckee River Legacy Trail Phase 4	Palisades Dr. to SR 89 (including bridge near SR 89)	5	2.3	\$ 4,500,000	6	2	3	2	13	High
Mousehole Project	Deerfield Dr./89 South to West River St.	1	0.5	\$ 14,000,000	6	2	3	2	13	High
Trout Creek Trail to Lausanne Way/Basel Place	End of Trout Creek Trail Phase I to Lausanne Way	6	1	\$ 2,000,000	6	2	3	2	13	High
Joerger Ranch-Riverview Sports Park Connector	Joerger Dr. at north end of Joerger Ranch to Joerger Ranch/Martis Valley Trail Connector	7	0.9	\$ 1,000,000	4	3	3	2	12	High
Pioneer Bike Path Extension	Indian Jack Rd. to Frates Ln.	8	1.3	\$ 3,250,000	4	2	3	2	11	Medium
Joerger Ranch-Martis Valley Trail Connector	South end of Joerger Ranch to south Town limits	9	0.5	\$ 750,000	6	0	3	2	11	Medium
Joerger Ranch-Brockway Rd. Connector	Western side of Joerger Ranch to Brockway Rd.	10	0.3	\$ 750,000	4	2	3	1	10	Medium
Martis Creek Lake Trail	Truckee River Legacy Trail to Martis Creek Dam Road to Riverview Sports Park	11	3.4	\$ 5,100,000	2	3	2	2	9	Medium
Trout Creek Trail-Pioneer Bike Path Connector	Comstock Dr. to Trout Creek Trail	12	0.4	\$ 600,000	4	1	3	1	9	Medium
Truckee River Bridge	West River St. connecting the Truckee River Legacy Trail and West River Street in the vicinity of Riverside Dr.	51	0.1	\$ 1,000,000	4	1	3	1	9	Medium
Old Greenwood-Glenshire Dr. Bridge Connector	Overland Trail/Fairway Dr. intersection to Glenshire Dr. Truckee River bridge	13	1.2	\$ 1,800,000	4	1	3	0	8	Medium
W. River Railroad Crossing	Donner Pass Rd. to West River St. at Spring St.	52	0.1	\$ 15,000,000	2	1	0	3	6	Low
E. River Railroad Crossing	Railyards Master Plan Area to East River St. approximately 1,800 feet east of Bridge St.	53	0.1	\$ 15,000,000	2	1	0	3	6	Low
Railyard Master Plan Shared Use Paths	As described in Railyard Master Plan	49	0.9	\$ 1,650,000	2	0	3	1	6	Low
Hilltop Master Plan	Palisade Dr. at Ponderosa Dr. to Hilltop	14	0.7	\$ 1,500,000	2	1	1	0	4	Low

Paved Trails

16.7

\$73,400,000

Community Rating (2-6)

Low rating=2

Medium rating=4

High rating=6

Constitutes 40% of overall rating

Developed with community input

Gap Closure Rating (0-3)

Higher points given for trails which connect
or complete existing pedestrian/bike facilities

Implementation Timeline

High Priority Projects=Short-term time frame

Medium Priority Projects=Mid-term time frame

Low Priority Projects=Long-term time frame

Recreational Use Rating (0-3)

Points given for trails that
direct access to scenic &
resources

Transportation Rating (0-3)

Higher points for trails which
reduce vehicle/bike
conflicts & which connect
neighborhoods to activity
centers

Legend

2-6=Low

7-11=Medium

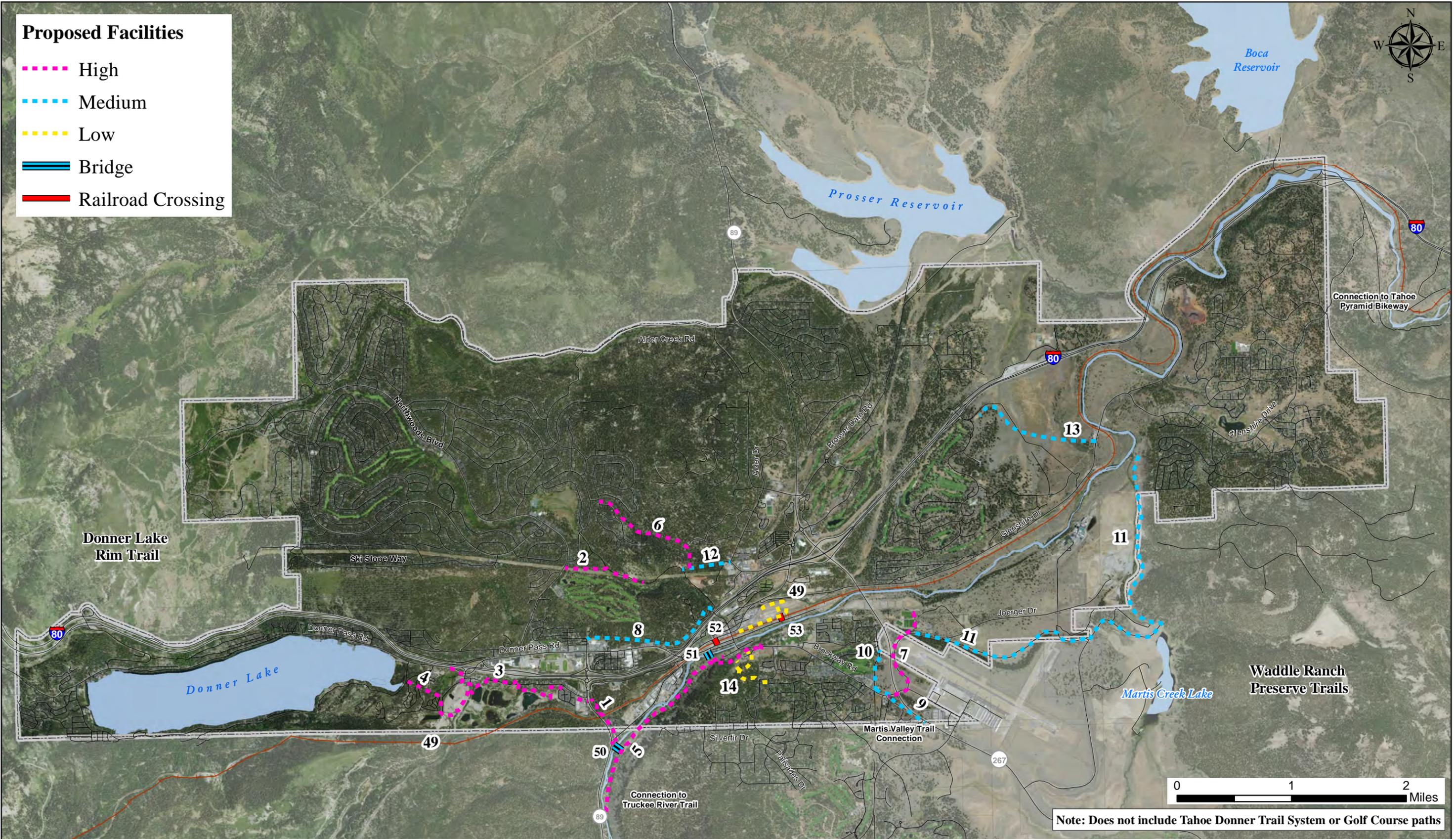
12-15=High

Paved Trail Priority



Proposed Facilities

- High
- Medium
- Low
- Bridge
- Railroad Crossing



Note: Does not include Tahoe Donner Trail System or Golf Course paths

Bike Lanes

Roadway/Trail	Project Limits	Segment No.	Distance (miles)	Project Cost	Community Rating (2-6)	Gap Closure Rating (0-3)	Recreational Use Rating (0-3)	Bike/Vehicle Conflict Rating (0-3)	Overall Rating	PRIORITY
West River Street	Riverside Drive to Placer County line	15	1.0	\$ 1,500,000	6	3	1	3	13	High
SR 89	Hennes Rd. to north Town limits	16	2.4	\$ 3,600,000	2	2	2	3	9	High
Donner Pass Road	S. Shore Dr. to west Town limits	17	0.6	\$ 900,000	2	2	3	1	8	High
SR 89	Donner Pass Rd. to south Town limits	18	0.9	\$ 50,000	2	3	0	3	8	High
South River Street	Brockway Rd. along South River St.	25	0.1	\$ 150,000	2	2	2	2	8	High
Glenshire Dr.	1500' west & 1000' east of Highland Ave.	26	0.5	\$ 500,000	2	2	2	2	8	High
Glenshire Dr. & Dorchester Dr.	Glenshire Dr./Dorchester Dr. loop	19	3.7	\$ 5,550,000	4	2	1	1	8	High
Brockway Rd.	Truckee River Regional park to Joerger Ranch	20	0.5	\$ 750,000	2	2	1	2	7	Medium
Highway 267	Hennes Rd. to south Town limits	21	1.8	\$ 50,000	2	2	1	2	7	Medium
Mclver Crossing	Donner Pass Rd. to West River St.	22	0.1	\$ 15,000	2	2	0	2	6	Medium
Alder Creek Rd. & Fjord Rd.	Northwoods Blvd. to SR 89	23	4.5	\$ 6,750,000	2	1	2	1	6	Medium
Railyard Master Plan Bike Lanes	As described in Railyard Master Plan	24	0.8	\$ 35,000	2	2	0	2	6	Medium
Palisades Dr./Ponderosa Dr./Martis Valley Rd.	Brockway Rd./Palisades Dr. intersection to Brockway Rd./Martis Valley Rd. intersection	27	2	\$ 3,000,000	2	1	0	1	4	Low

18.9 \$ 22,850,000

Community Rating
 Low rating=2
 Medium rating=4
 High rating=6
 Constitutes 40% of overall rating
 Developed from community input

Gap Closure Rating (0-3)
 Higher points given for trails which connect or complete existing pedestrian/bike facilities

Implementation Timeline
 High Priority Projects=Short-term time frame
 Medium Priority Projects=Mid-term time frame
 Low Priority Projects=Long-term time frame

Recreational Use Rating (0-3)
 Points given for trails that provide direct access to scenic & resources

Bike/Vehicle Conflict Rating (0-3)
 Points given for high vehicle volumes & high bike usage

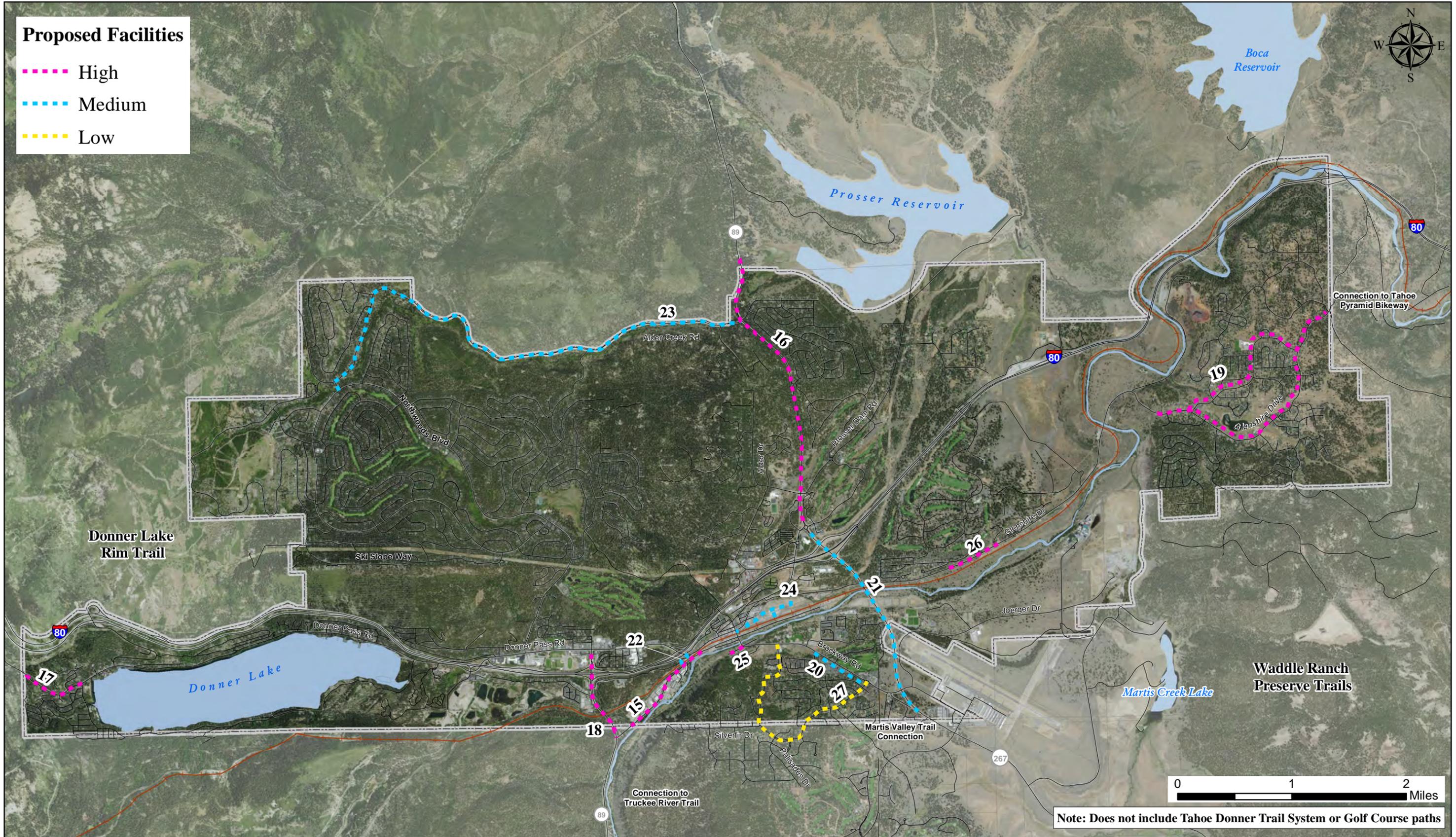
Legend
 2-5=Low
 6-7=Medium
 8-15=High

Bike Lane Priority



Proposed Facilities

- High
- Medium
- Low



Note: Does not include Tahoe Donner Trail System or Golf Course paths

Bike Routes

Roadway/Trail	Project Limits	Segment No.	Distance (miles)	Project Cost	Community Rating	Gap Closure Rating	Recreational Use Rating	Transportation Rating	Overall Rating	PRIORITY
Donner Pass Rd.	Mclver Crossing to Jibboom St.	28	0.7	\$ 3,000	2	2	0	2	4	Low
Armstrong Tract	Highway Rd. East to Sierra Dr. East, loop Martis St. Palisade St. & Thomas Dr.	29	1.7	\$ 8,500	1	2	0	1	3	Low
Coldstream Road	I-80 to end of Cold Stream Rd.	30	0.4	\$ 2,000	2	1	1	1	3	Low
Donner Lake Rd.	Donner Pass Rd to I-80 interchange	31	1.2	\$ 4,500	2	0	1	0	1	Low

4 \$ 18,000

Community Rating

Low rating=2
 Medium rating=4
 High rating=6
 Constitutes 40% of overall rating

Gap Closure Rating

Points given for segments which provide important linkages or closures within the bike network

Recreational Use Rating

Points given for providing recreational opportunities

Transportation Rating

Points given for ease of bicycle transportation

Legend

2-5=Low
 6-10=Medium
 11-15=High

Implementation Timeline

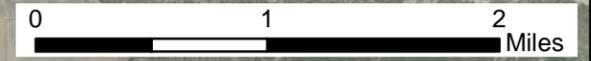
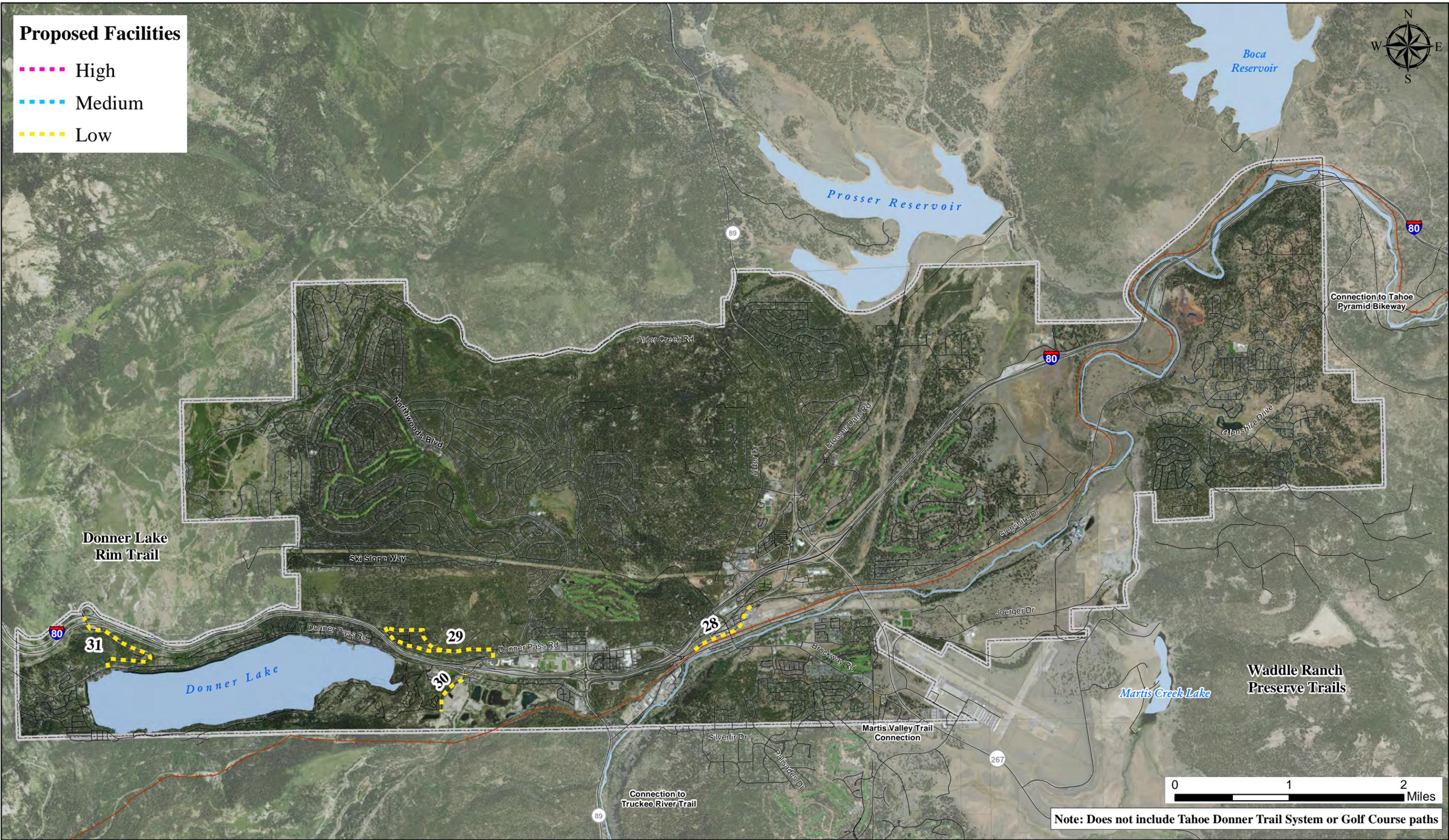
High Priority Projects=Short-term time frame
 Medium Priority Projects=Mid-term time frame
 Low Priority Projects=Long-term time frame

Bike Route Priority



Proposed Facilities

- High
- Medium
- Low



Note: Does not include Tahoe Donner Trail System or Golf Course paths

Dirt Trails

Roadway/Trail	Project Limits	Segment No.	Distance (miles)	Project Cost	Community Rating (2-6)	Gap Closure Rating (0-3)	Recreational Use Rating (0-3)	Transportation Rating (0-3)	Overall Rating	PRIORITY
Trout Creek Trail Network	All paved segments of Trout Creek Trail	32	2.9	\$ 580,000	4	1	3	1	9	Medium
Tahoe-Donner South Trails	North of Interstate 80, south of Tahoe-Donner	33	3	\$ 600,000	4	1	3	0	8	Medium
Coldstream Specific Plan Trail	Coldstream Specific Plan area	34	1.9	\$ 380,000	4	1	3	0	8	Medium
Martis Creek Trail Network	All paved segments of Martis Creek Trails	35	4.3	\$ 860,000	4	1	3	0	8	Medium
Old Greenwood Glenshire Connector	Old Greenwood to Glenshire Drive	36	1.2	\$ 240,000	2	1	3	1	7	Medium
Bridge Street Gateway Connector	Bridge Street to Frates Ln.	37	1.2	\$ 260,000	2	1	3	1	7	Medium
Alder Hill Trails	East of Tahoe-Donner, north of Trout Creek	38	3.5	\$ 700,000	2	0	3	0	5	Low
Glenshire Dr.-Prosser Creek Trail	Glenshire Dr. Truckee River bridge to Prosser Creek	39	2.3	\$ 460,000	2	0	3	0	5	Low
Old Greenwood -Donner Pass Rd. Connector	Old Greenwood to Donner Pass Road at the Town of Truckee Public Service Center	40	0.6	\$ 120,000	2	0	3	0	5	Low
Glenshire Trails	East of Truckee River in Glenshire	41	2.3	\$ 460,000	2	0	3	0	5	Low
Eastern Glenshire Trail	Glenshire Drive toward eastern Town boundary	42	1.2	\$ 240,000	2	0	3	0	5	Low
Northwoods Blvd.-Lausanne Rd. Connector	Northwoods Blvd. to Lausanne Rd.	43	0.5	\$ 120,000	2	0	3	0	5	Low
State Route 89 N	Rainbow Dr. to Alder Creek Rd.	44	0.6	\$ 120,000	2	0	3	0	5	Low
Hilltop-Truckee River Legacy Trail Connections	Hilltop to Truckee River Legacy Trail	45	1	\$ 200,000	2	0	3	0	5	Low
Prosser Creek Reservoir Trails	South of Prosser Creek Reservoir	46	1	\$ 200,000	2	0	3	0	5	Low
Prosser Village Rd.-Prosser Creek Trail	Prosser Village Rd./Interstate 80 interchange to Prosser Creek	47	1	\$ 200,000	2	0	3	0	5	Low
West End Trail	Donner Pass Road near Donner Lake Road to Billie Mack Road	48	1.1	\$ 220,000	2	0	3	0	5	Low

26.7 \$ 5,960,000

Community Rating
 Low rating=2
 Medium rating=4
 High rating=6
 Constitutes 40% of overall rating

Gap Closure Rating (0-3)
 Higher points given for trails which connect or complete existing pedestrian/bike facilities
Implementation Timeline
 High Priority Projects=Short-term time frame

Recreational Use Rating (0-3)
 Points given for trails that provide recreational resources

Transportation Rating
 Higher points given for trails which reduce vehicle/auto conflicts and which connect neighborhoods to activity

Legend
 2-5=Low
 6-10=Medium
 11-15=High

Dirt Trails

| Developed from community input

| Medium Priority Projects=Mid-term time frame
| Low Priority Projects=Long-term time frame

| centers

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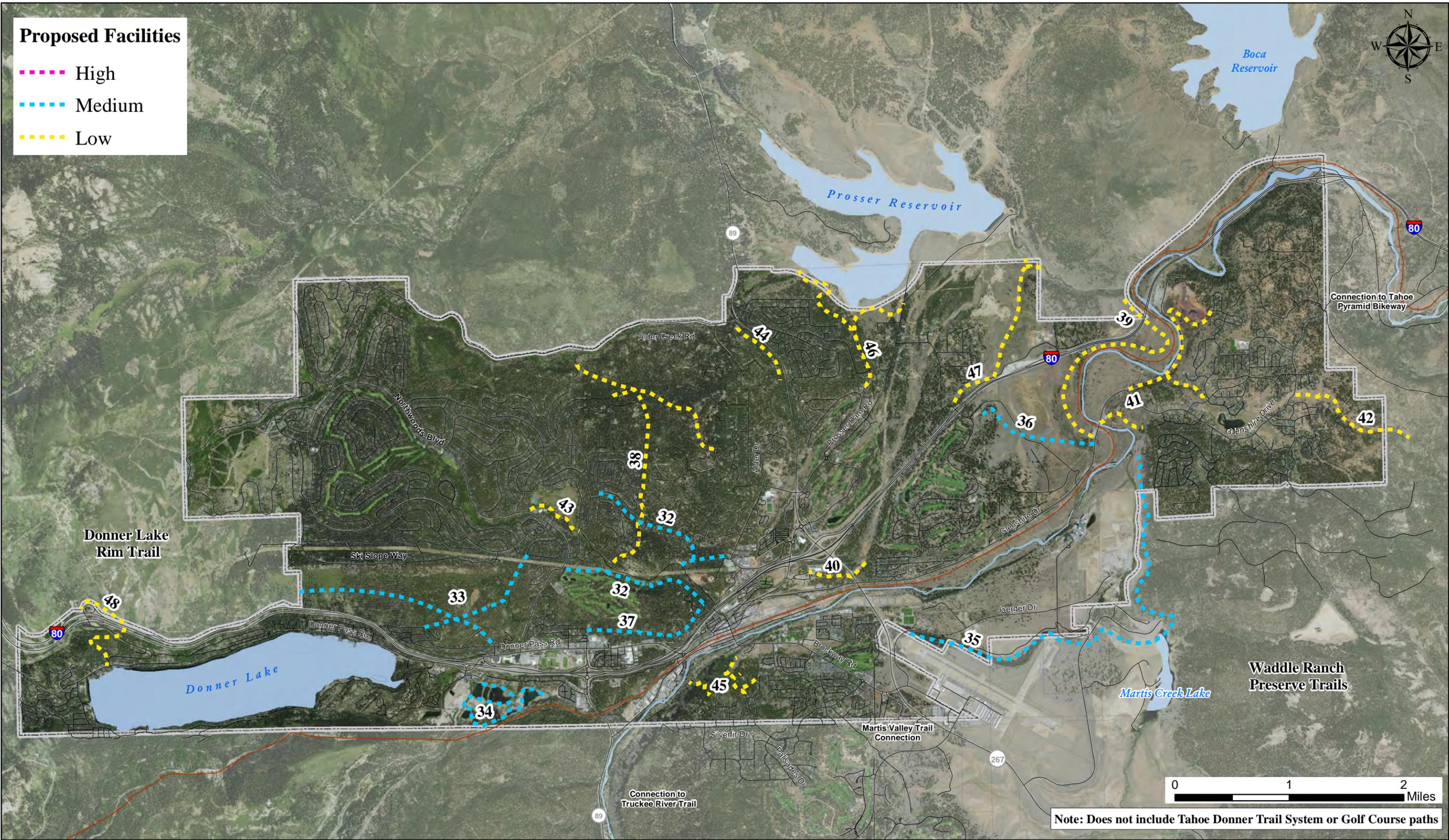
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Dirt Trail Priority



Proposed Facilities

- High
- Medium
- Low



Note: Does not include Tahoe Donner Trail System or Golf Course paths

Sidewalks

Walkway Segment	Project Limits	Segment No.	Distance (LF) - both sides	Project Cost	Community Rating (2-6)	Gap Closure Rating (0-3)	School Access Rating (0-3)	Pedestrian Safety Rating (0-3)	Overall Rating	PRIORITY
Donner Pass Rd.	Coldstream Rd. to McIver Crossing	54	9,745	\$ 682,150	4	3	3	3	13	High
Donner Pass Rd.	McIver Crossing to East Main St.	55	7,370	\$ 515,900	6	3	0	2	11	High
W. River St.	SR 89 to Bridge St.	56	14,080	\$ 985,600	6	1	0	1	8	Medium
Jibboom St.	Spring St. to Bridge St.	57	1,070	\$ 74,900	4	2	0	0	6	Medium
Bridge St./Brockway	E. Keiser Ave. to Palisades Dr. (portions one side only)	58	2,785	\$ 194,950	4	1	0	2	7	Medium
Donner Trail Rd.	Donner Pass Rd. to Edmunds Dr. (south side only)	59	265	\$ 18,550	2	1	2	1	6	Medium
Meadow Way	Donner Pass Rd. to Rocky Ln. (west side only)	60	1,035	\$ 72,450	2	1	2	1	6	Medium
Brockway Rd.	Martis Valley Rd. to Hope Ct. (south side only)	61	990	\$ 69,300	2	2	0	2	6	Medium
Martis Valley Rd.	Brockway Rd. to Sugar Pine Rd. (south side only)	62	1,190	\$ 83,300	2	2	0	1	5	Low
Donner Pass Rd.	Keiser Ave. to Interstate 80	63	4,475	\$ 313,250	2	2	0	1	5	Low
Keiser Ave.	Bridge St. to Donner Pass Rd. - includes E. Main St. (portions only)	64	1,580	\$ 110,600	2	2	0	1	5	Low
Estates Dr.	Brockway Rd. to Crest View Dr. (west/north side only)	65	940	\$ 65,800	2	2	0	1	5	Low
Frates Ln.	Donner Pass Rd. to Glen Rd.	66	440	\$ 30,800	2	1	1	0	4	Low
Levone Ave.	Donner Pass Rd. to Pine Ave.	67	2,685	\$ 187,950	2	1	0	1	4	Low
Palisades Dr.	Brockway Rd. along Palisades & Ponderosa to south intersection of Palisade/Ponderosa (west side only)	68	4,880	\$ 341,600	2	1	0	1	4	Low
Spring St.	Keiser Ave. to Donner Pass Rd. (west side only)	69	545	\$ 38,150	2	1	0	1	4	Low
Church St.	Bridge St. to Donner Pass Rd.	70	1,010	\$ 70,700	2	1	0	1	4	Low
School St.	Church St. to E. Main St. (west side only)	71	185	\$ 12,950	2	1	0	0	3	Low
E. River St.	Bridge St. to E. River St. east end (north side only)	72	3,250	\$ 227,500	2	1	0	0	3	Low
Jibboom St.	Bridge St. to Truckee Cemetery (north side only)	73	3,740	\$ 261,800	2	0	0	0	2	Low
			62,260	\$ 4,358,200						

Community Rating

Low rating=2
 Medium rating=4
 High rating=6

Gap Closure Rating (0-3)

Higher points given for trails which connect or complete existing pedestrian/bike facilities

Implementation Timeline

High Priority Projects=Short-term time frame
 Medium Priority Projects=Mid-term time frame
 Low Priority Projects=Long-term time frame

School Access Rating (0-3)

Provides access to local schools

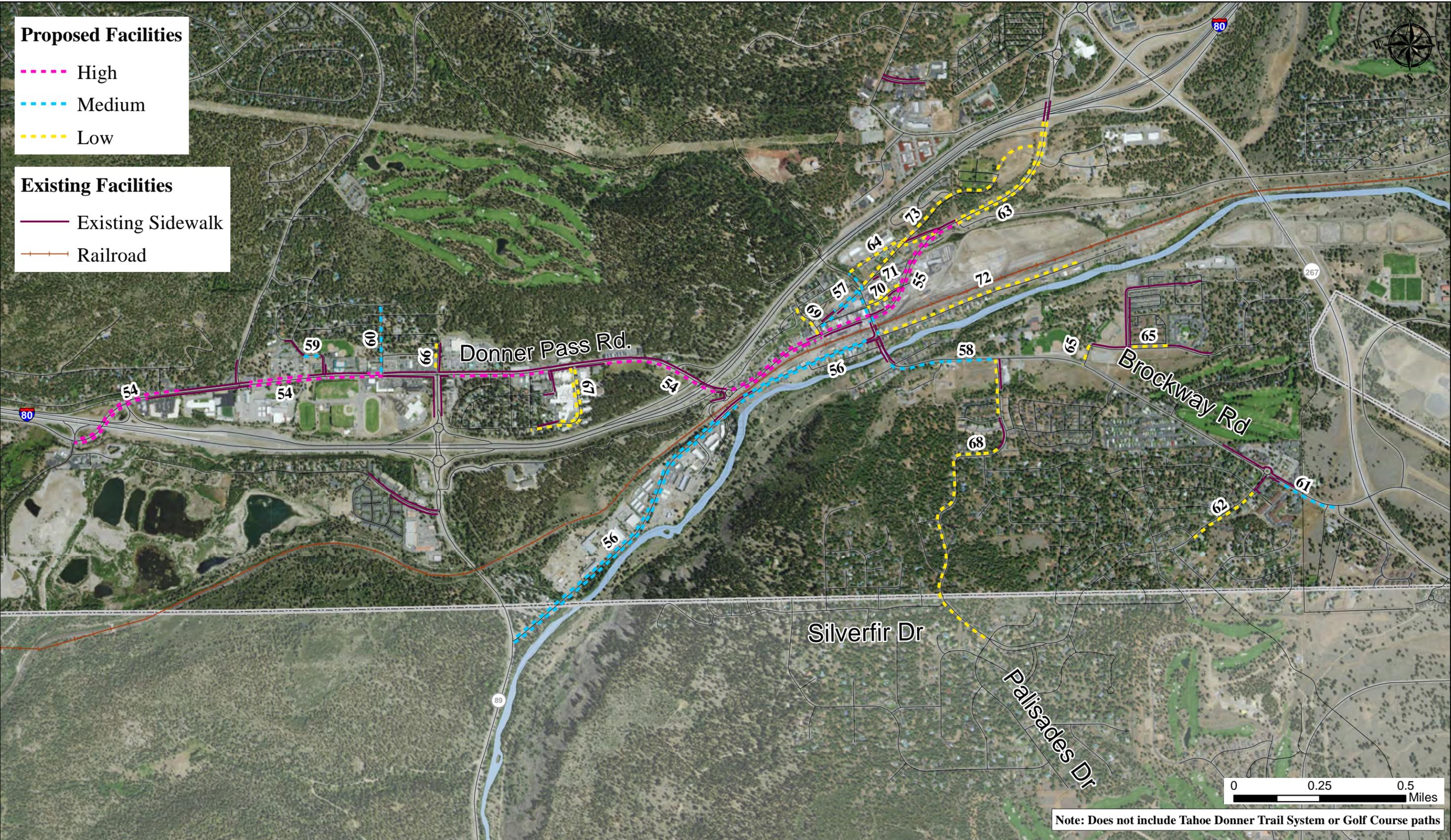
Pedestrian Safety Rating (0-3)

Higher points for walkways with higher volume of vehicle and pedestrian traffic

Legend

2-5=Low
 6-10=Medium
 11-15=High

Sidewalk Priority



APPENDIX E: DESIGN GUIDANCE

APPENDIX E: DESIGN GUIDELINES

INTRODUCTION

The Design Guidelines provide general criteria to be utilized and applied to each specific trail and bikeway project implementing the Master Plan. Realizing that all sites and conditions are unique, the Design Guidelines provide flexibility by providing various methods and techniques for the design of a particular trail or bikeway project proposal. The Design Guidelines purposely utilize “shoulds” in lieu of “shalls” to provide flexibility and promote creativity during the design and planning phases of a project. The spirit of the Design Guidelines should be considered more important than the letter. This is particularly true for recreational trail proposals.

On-street bikeways by their nature must adhere more closely to the letter of the Design Guidelines. The bike lane and route specifications contained within the Design Guidelines have been developed for consistency with state and federal bikeway standards to provide a seamless transition from town-maintained roadways to state-maintained highways and in support of state and federal funding opportunities.

USE & APPLICATION

Use and application of the Design Guidelines will be important for all projects proposing to implement any recreational trail or on-street bikeway segment contained within the Master Plan. The Guidelines are to be used a guide in promoting a unique and interesting system, while at the same time providing a safe, recognizable and uniform system in keeping with Truckee’s mountain character.

The Design Guidelines have been formatted into two distinctly different groups: (i) paved trails and on-street bikeways (known as bike lanes and bike routes) and (ii) dirt recreational trails. Criteria for widths, surfacing types and many other design elements are included within this appendix, utilizing both a numerical and narrative format. Guidelines for disabled access and graphic illustrations are also included within this Appendix to supplement the paved and dirt surface guidelines. All are intended to be used during the planning and design phases of a recreational trail or on-street bikeway project in the community and applied to the final product. Demonstrated consistency with the Design Guidelines will be a primary element of the proposal and evaluation process.

CLASS I BIKE PATHS & ON-STREET BIKEWAY GUIDELINES

National design standards for bikeways have been developed by the American Association of Highway and Transportation Officials (AASHTO) and the California Department of Transportation (Caltrans). The Caltrans Highway Design Manual, Chapter 1000: Bikeway Planning and Design, serves as the official design standard for all bicycle facilities in California. All designated paved trails and on-street bicycle facilities should conform to these standards, when practical.

Design standards in Chapter 1000 fall into two categories, mandatory and advisory. Caltrans advises that all standards in Chapter 1000 be followed, which also provides a measure of design immunity. Not all possible design options are shown in Chapter 1000. For example, intersections, ramp entrances, rural roads, and a variety of pathway locations are not specified in the Caltrans Highway Design Manual.

Three distinct classifications of paved bikeways are recognized by Caltrans and provided for within the Master Plan. All provide a recreational and alternative transportation purpose to varying degrees. Graphic illustrations of the three types of paved bikeways are including in the Trails & Bikeways Master Plan. The three classifications of bikeways include:

Paved Trail - Variously called a bike path or multi-use trail. Provides for bicycle travel on a paved right-of-way completely separated from any street or highway.

Bike Lane - Provides a striped lane for one-way travel on a street or highway.

Bike Route - Provides for shared use with pedestrian or motor vehicle traffic.

In addition to the Caltrans design standards, the following guidelines should be followed when designing a paved trail:

- Multi-use trails and unpaved facilities that serve a primarily recreational rather than a transportation function and will not be funded with federal transportation dollars may not need to be designed to Caltrans standards.
- Paved trail roadway crossings require preliminary design review. A cross-section is presented on page E-22. Generally speaking, bike paths that cross roadways with an average daily traffic (ADT) of over 20,000 vehicles will require either signalization, roundabout or grade separation.
- Landscaping should not be water intensive and consist of native vegetation.
- Barriers at pathway entrances should be clearly marked with reflectors and should be ADA accessible (min. 5 feet clearance).

- Bike path construction should take into account impacts of maintenance and emergency vehicles on shoulders and vertical requirements.
- Two-foot-wide unpaved shoulders for pedestrians/runners or a separate tread-way should be provided where feasible.
- Provide adequate trailhead parking and other facilities such as restrooms and drinking fountains at appropriate locations.

TABLE E.1 - PAVED TRAIL SPECIFICATIONS

Specification	Material	Dimension	
Pavement Type:	Recycled Asphalt	3"	(75 mm)
	Asphalt ¹	3"	(75 mm)
	Concrete ²	3"	(75 mm)
Sub-Base:	Granite	6"	(100-150 mm)
	Gravel	6"	(100-150 mm)
Shoulders:		2-4"	(50-100 mm)
Width:	Minimum 2-way Path	8'	(2.4 m)
	Preferred 2-way Path	10-12'	(3.0-3.6 m)
Shoulders:		2-3'	(0.6-1.0 m)
Lateral Clearance:		2-3'	(0.6-1.0 m)
Vertical Clearance:		8-10'	(2.5-3.0 m)
Striping:	Centerline (none, dashed yellow, solid yellow)	4"	(100 mm)
	Edgeline (none or solid white)	4"	(100 mm)
Signing:	(See Caltrans Traffic Manual and MUTCD)		
Minimum Cross Slope:		2%	2%
Minimum Separation from Roadway: ²		5'	(1.5 m)
Design Speed:		20-30 mph	(40-50 kph)
Maximum Super Elevation:		5%	5%

TABLE E.1 - PAVED TRAIL SPECIFICATIONS

Specification	Material	Dimension	
Maximum Grades (over 100'):		5%	5%
Removable Bollards (minimum spacing):		5'	(1.5 m)
Lighting (if night use is expected):	5-22 LUX	5-22 LUX	

¹ Asphalt may be unsuitable for paved trails in stream channels due to asphalt oils. Concrete paving is recommended in areas where the trail is subject to regular water flow.

^{2 3} Unless physical barrier is provided.

TABLE E.2 - BIKE LANE SPECIFICATIONS

Minimum Widths ¹	Preferred:	5'	(1.5m)
	Minimum:	4'	(1.2m)
Striping	Left side line: solid white stripe	6"	(150mm)
	Right side line: solid white stripe	4"	(100mm)
	Approach to intersections dashed white stripe	100-200'	(30m-60m)
Signing	R81 Bike Lane Sign beginning of all bike lanes far side of all bike path crossings at approaches and far side of all arterial crossings at major changes in direction maximum ½ mile (0.8km) intervals		
	Custom Bike Route Sign with G33 Directional Arrow and destination signs (where needed) see items under R81 Bike Lane Sign at approach to arterial crossings		
	No parking as necessary		

TABLE E.2 - BIKE LANE SPECIFICATIONS

Pavement Markings	"Bike" legend "Lane" legend Directional arrow See items under R81 Bike Lane Sign At beginning and end of bike lane pockets at approach to intersection
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Source: Caltrans Highway Design Manual, Chapter 1000, MUTCD, Caltrans Traffic Manual

¹ Measured between stripe and edge of pavement

Bike lanes should also follow the following guidelines:

- Bike lane pockets (min. 4' wide) between right turn lanes and through lanes should be provided wherever available width allows, and right turn volumes exceed 150 motor vehicles/hour.
- Although not completely unavoidable or inappropriate for all situations (i.e., South Shore Drive, south side of Donner Lake), bike lane transitions into bike routes should be discouraged. Alternatives to a bike lane to bike route transition should be analyzed, including a reroute of the bike lane or entire designation as a bike route.

BIKE ROUTE STANDARDS

Bike routes are designated as preferred routes for bicyclists. These routes provide continuity to other bicycle facilities such as bike lanes or paved trails. They provide a common route for bicyclists through high demand corridors and are preferable on low vehicle traffic volume roadways. Typically located on local neighborhood streets, they provide linkages to high use destinations such as schools, parks and commercial centers.

TABLE E.3 - CLASS III BIKE ROUTE SPECIFICATIONS

Recommended Amenity/Activity	Placement	Purpose
Bike Route Signs/Directional signs	Start and end points, route changes, intersections	Provide clear route definition
Stop Signs, Signals	Adjust to give greater priority to bicyclists	Safety and efficiency of route
Adjust utility covers, fill	All existing locations	Provide a smooth and

potholes, install bike safe drainage grates		safe route
Removal of street parking	Where roadway width is restricted	Improve safety
Increased Curb Lane Width	12' minimum, 14' optimum	Improve safety
Regular street sweepings		Remove debris that are hazardous

ADDITIONAL FACILITIES

In addition to those identified by Caltrans, there are a variety of improvements that will enhance the safety and attractiveness of streets for bicyclists. All should be considered in the bikeway planning process and implemented when feasible to promote the safest environment for bicyclists.

Sidewalks

The use of sidewalks as bicycle facilities is not encouraged by Caltrans, even as a bike route. There are, however, exceptions to this rule. The California Vehicle Code states: "Local authorities may adopt rules and regulations by ordinance or resolution regarding the...operation of bicycles...on the public sidewalks" (CA VC 21100, Subdiv. H). Caltrans adds in Chapter 1000: "In residential areas, sidewalk riding by young children too inexperienced to ride in the street is common. With lower bicycle speeds and lower auto speeds, potential conflicts are somewhat lessened, but still exist. But it is inappropriate to sign these facilities as bikeways. Bicyclists should not be encouraged (through signing) to ride facilities that are not designed to accommodate bicycle travel." When constructed, the preferred minimum width for sidewalks is six feet. The required minimum for ADA accessibility is four feet.

Traffic Calming

This includes any effort to moderate or reduce vehicle speeds and/or volumes on streets where that traffic has a negative impact on bicycle or pedestrian movement. Because these efforts may impact traffic outside the immediate corridor, study of traffic impacts is typically required. Other techniques include installing traffic circles, intersection islands, partial street closings, 'bulb-out' curbs, pavement treatments, lower speed signal timing, and narrowing travel lanes. Traffic circles, roundabouts, and other measures may be considered for residential collector streets where there is a desire to control travel speeds and traffic volumes but not to install numerous stop signs or traffic signals.

Signing and Striping

All bikeway signing should conform to the signing identified in the Caltrans Traffic Manual and/or the Manual on Uniform Traffic Control Devices (MUTCD). These documents give specific information on the type and location of signing for the primary bike system. A list of bikeway signs from Caltrans and the MUTCD are shown in Table E.4.

Develop a Truckee Bikeway System logo for use on the primary network. This sign may include a bikeway numbering system that is keyed into a publicly-produced bikeway map. Installing bikeway signs should be a high priority, and may begin immediately on bike route portions of the bikeway network.

Locations in downtown and other employment areas where centralized public covered bicycle parking can be installed, such as parking lots, should be identified. These facilities may charge a small user fee and/or be subsidized by nearby employers.

TABLE E.4 - RECOMMENDED SIGNING & MARKING

Item	Location	Color	Caltrans Designation	MUTCD Designation
No Motor Vehicles	Entrances to trail	B on W	R44A	R5-3
Use Ped Signal/Yield to Peds	At crosswalks; where sidewalks are being used	B on W		R9-5 R9-6
Bike Lane Ahead: Right Lane Bikes Only	At beginning of bike lanes	B on W		R3-16 R3-17
STOP, YIELD	At trail intersections with roads and Coastal Bikeways	W on R	R1-2	R1-1 R1-2
Bicycle Crossing	For motorists at trail crossings	B on Y	W79	W11-1
Bike Lane	At the far side of all arterial intersections	B on W	R81	D11-1
Hazardous Condition	Slippery or rough pavement	B on Y	W42	W8-10
Turns and Curves	At turns and curves which exceed 20 mph design specifications	B on Y	W1,2,3 W4,5,6,14 W56,57	W1-1,2 W1-4,5 W1-6
Trail Intersections	At trail intersections where no STOP or YIELD required, or sight lines limited	B on Y	W7,8,9	W2-1, W2-2 W2-3, W2-3 W2-4, W2-5

TABLE E.4 - RECOMMENDED SIGNING & MARKING

Item	Location	Color	Caltrans Designation	MUTCD Designation
STOP Ahead	Where STOP sign is obscured	B,R on Y	W17	W3-1
Signal Ahead	Where signal is obscured	B,R,G	YW41	W3-3
Bikeway Narrows	Where bikeway width narrows or is below 8'	B on Y	W15	W5-4
Downgrade	Where sustained bikeway gradient is above 5%	B on Y	W29	W7-5
Pedestrian Crossing	Where pedestrian walkway crosses trail	B on Y	W54	W11A-2
Restricted Vertical Clearance	Where vertical clearance is less than 8'6"	B on Y	W47	W11A-2
Railroad Crossing	Where trail crosses railway tracks at grade	B on Y	W47	W10-1
Directional Signs (i.e. Downtown, Train Station, etc.)	At intersections where access to major destinations is available	W on G	G7 G8	D1-1b(r/l) D1-1c
Right Lane Must Turn Right; Begin Right Turn Here, Yield to Bikes	Where bike lanes end before intersection	B on W	R18	R3-7 R4-4
Truckee Bikeway	Trail logo: at all trail entrances, major intersections, major access points	Varies		
Trail Regulations	All trail entrances	B on W		
Multi-purpose Trail: Bikes Yield to Pedestrians	All trail entrances			
Bikes Reduce Speed & Call Out Before Passing	Every 2,000 feet	B on W		
Please Stay On Trail	In environmentally-sensitive areas			
Caution: Storm Damaged Trail	Storm damaged locations	B on Y		
Trail Closed: No Entry Until Made Accessible & Safe for Public Use	Where trail or access points closed due to hazardous			

TABLE E.4 - RECOMMENDED SIGNING & MARKING

Item	Location	Color	Caltrans Designation	MUTCD Designation
	conditions			
Speed Limit Signs	Near trail entrances: where speed limits should be reduced from 20 mph	B on W		
Trail Curfew 10PM - 5AM	Based on local ordinance	R on W		

DIRT TRAIL GUIDELINES

This section sets forth design and maintenance recommendations for the dirt recreational trails within the planned system. These recommendations reflect current thinking with respect to the functioning of low-impact multiple-use dirt trails. The dirt trail design recommendations are geared towards providing a high quality trail system that provides trail users with a high quality recreational experience. Proposed recommendations seek to meet the anticipated needs of a wide variety of trail users.

Because trails are bare dirt surfaces, erosion from rainfall, runoff, and trail use can produce significant amounts of sediments. Thus, potential trail impacts on local water quality should be considered. Trails can also impact groundwater, wetlands, wildlife, vegetation, community layout, scenic values and land uses. Because of these considerations, the design recommendations and maintenance program for the dirt trail system should aim to fulfill the following goals:

- Provide workable facilities for multiple users
- Preserve scenic resources
- Protect water quality, wetlands, floodplains and streams
- Protect sensitive areas, including designated wildlife habitats and plant communities
- Protect historic resources
- Control erosion and protect exposed soil areas

DEFINE LEVELS OF CHALLENGE FOR DIRT TRAILS

Because the needs of trail users vary, trail specifications can be combined in different ways to develop level-of challenge categories for multiple use trails in the trail network. By grouping the trails into three

broad levels, decisions can be made about such issues as whether to provide abundant trail amenities, how wide to make bridge crossings, and other considerations.

Level I trails, the easiest category of multi-use trails, would be wide, low-gradient trails with large turning radii, few obstructions, and opportunities for half- and full-day excursions and/or loops of five miles or less. Such trails would accommodate the widest variety of uses and are also prime candidates for winter grooming. Level II trail users would expect to find moderate gradients, possibilities for longer excursions and more rugged tread surfaces. Level III trails would have steeper overall gradients and pitches, narrower and more primitive tread surfaces and possibly longer routes.

TABLE E.5 - TRAIL CHARACTERISTICS BY LEVEL OF CHALLENGE

Level I - Easiest	Level II - Moderate	Level III - Difficult
Many trail amenities	Moderate grades	Sections with steep grades
High level of maintenance	10' vertical clearance	Low numbers of people present
Signage indicating destinations within ½-1 mile	Moderate numbers of people present	Signage indicating major destinations, 3-5 mile distances
Info kiosks on route	Good connectivity and signage to main trails	Narrow treads
Close ties with trail heads and restroom facilities	Narrow treads, 18" wide	Non-groomed ski trails
Links to major destinations and commercial areas	Signage indicating major destinations within 2-4 mile distances	
Limited sections of moderate grades		
High numbers of people present		
12' vertical clearance		
Trail treads – 24" wide		
Trail blazes always in sight		

DIRT TRAIL DESIGN CONSIDERATIONS

Dirt trail design considerations include: gradient, overall elevation gain, sight distance, overhead and right-of-way clearing, radii for switchbacks and climbing turns, and tread width and conditions. Trails for different user groups may require specific design solutions and the people in the various user groups will have certain expectations about the location of amenities and the level of difficulty desired on an outing. Key user groups are: hikers, mountain bikers and equestrians.

Table E.6 can be used to develop trail recommendations to meet the varying levels of public expectation on the trail system.

TABLE E.6 - TRAIL LEVELS & RECOMMENDATIONS

Criteria	User Group	Easiest	Moderate	Difficult
Gradient	Hikers	10% for 100'	15% for 300'	Up to 30% for 500'
	Mountain Bikers	10% maximum sustained pitch for 100'	10% maximum sustained pitch for 300'	Sustained grades or pitches greater than 10%
	Equestrians	15% for 200'	25% for 300'	30% for 500'
Switchback and Turn radii	Hikers	2-4'		
	Mountain Bikers	6' minimum for climbing turn: 10'	3' For speeds of 5-15 mph: 55'	2'
	Equestrians	5'		
Cleared Tread, Surface	Hikers	18"-24", obstacle free	12"-18", roots, embedded rocks and some logs may be left.	12", tread is not graded
	Mountain Bikers	24", smooth	12"-24", some rough sections.	12", varied- some portage required.
	Equestrians	24", with cleared surface, reinforced cross drains and puncheon or turnpike in bog sections.	24", roots and embedded rocks and logs not removed.	18", surface not graded. At precipices, trail base should be minimum 48"-60" wide. Extra trail width needed in steep terrain.

TABLE E.6 - TRAIL LEVELS & RECOMMENDATIONS

Criteria	User Group	Easiest	Moderate	Difficult
Overhead Clearing	Hikers	8'	8'	8'
	Mountain Bikers	8'	8'	8'
	Equestrians	10'	8'	8'
Right-of-Way Clearing	Hikers	4'	3'-4'	3'
	Mountain Bikers	4'	3'-4'	3'
	Equestrians	8' (for pack clearance between large trees, there must be 3' on either side of the trail center line 30" above the trail surface)	6' (clearance as for easiest trail)	3' – 4' wide

SIGHT DISTANCE

When sight distance is limited, pullouts should be provided that can accommodate all types of trail users. For mountain bicyclists it is important to provide sufficient sight distance for stopping at 15 mph on straightaways and 5 mph on blind curves and switchbacks.

TREAD PREPARATION OR SUPPORT

It is recommended that wet areas be avoided when deciding on the location of any type of trail. If it's not possible to avoid a wet area, foundation rock should be used as a tread preparation. Under-drainage should be provided for water crossing trails that are also used during snow conditions.

When preparing the tread of a trail for hikers, gravel can be used in wet spots. For mountain bike trails, avoid using cobbles and other large materials and use elongated drain dips over water bars.

WATER CROSSINGS

Some recommendations for water crossings on hiking, biking or equestrian trails include:

Hiking: If not on a bridge, the tread (rocks or logs) across water or wet areas should be a minimum of 12" wide, 24" apart.

Mountain Biking: Ramps should be provided up to a bridge structure so cyclists do not have to dismount. Approaches to bridges should be straight.

PROTECT WATER QUALITY, WETLANDS, FLOODPLAINS AND STREAMS

Dirt trails have the capacity to change the timing, quantity and quality of runoff by "short-circuiting" the natural hydrologic system and delivering both sediments and water directly to streams, wetlands and riparian resources. For this reason, care should be taken to minimize the impacts of trails on these resources. Practices to achieve this protection include:

Avoid wet areas. Trails should avoid wet areas, springs, floodplains, stream corridors, wetlands, and the lower portions of slopes, especially those that are north-facing.

Identify and map water resources within 200 feet of the trail system. Accurately locating wetlands, streams and riparian areas relative to the trail is an important element of the trail planning. The location of these potential "receiving resources" for trail drainage and associated sediments will affect decisions about placement of trail drainage structures, maneuvering of maintenance equipment, season of work, interception and infiltration of trail drainage, and disposal of earth materials generated during maintenance activities.

Minimize crossings of streams and wetlands. Minimize channel crossings and changes to natural drainage patterns.

Minimize trail drainage to streams and wetlands. Minimize the hydrologic connectivity of trails with streams, wetlands and other water resources.

Keep heavy equipment off wet trails. Avoid operating heavy equipment on trails when they are wet. Use alternate routes for heavy equipment when trails are wet.

Provide crossing structures where needed. Where trails traverse wet areas, structures should be provided to avoid trail widening and damage at "go-around" spots. Crossing structures also help protect water quality, wetlands and riparian areas.

Establish vegetative buffers between trails, streams and wetlands. Retain a buffer between trails and water resources by establishing riparian and streamside management zones (RSMZs), within which trail influences such as drainage, disturbance and trail width are minimized.

The following practices are important in preventing or minimizing the impacts of trails in wet meadows:

- Groundwater and surface drainage should not be intercepted, diverted or concentrated by in-meadow ditches, interception ditches, berms or fill embankments;
- Meadows should not be used for borrow materials;
- Upland roads should not drain directly to wet meadows;
- Culverts should not be below grade;
- Incision should not be occurring below the meadow surface;
- Discharge of human-influenced drainage should be by level spreading;
- Maintenance of existing ditches should only be carried out when needed and should not result in ditch deepening or sediment transport to wet meadow;
- Existing ditches should have frequent turnouts and plugs;
- Under-drains should have drop inlets and these should not be undercut;
- Outlet scour pools should not be present or enlarging;
- Headcuts should not be present;
- Upland species should not be invading;
- Meadow should provide base flows to downstream channel during dry season.

PROTECT SENSITIVE AREAS, INCLUDING DESIGNATED WILDLIFE HABITATS AND PLANT COMMUNITIES

In today's regulatory environment, resource-disturbing activities on federal lands such as construction of new trail alignments are subject to the requirements of federal ecosystem and watershed planning as well as the Clean Water and Endangered Species acts. For this reason, decisions made during trail master planning that concern trail alignment, realignment, decommissioning and some kinds of maintenance will be subject to environmental impact analysis. A few over-arching principles can provide some guidelines for master planning, and hopefully, steer many project elements away from the lengthy and expensive environmental assessment process.

Avoid new construction in late successional forest stands. Minimize disturbances in late successional reserve stands of timber, which are characterized by older trees, often with closed canopy, and where certain flora and fauna are of concern for protection.

Utilize disturbed areas. Utilize existing disturbed areas and clearings for trails and parking facilities, to the extent that such use does not detract from the area's scenic quality.

Establish vegetative buffers for non-conforming uses. Industrial and commercial uses adjacent to trails should be screened by means of fully planted native vegetative buffers at least 25 feet wide.

Establish riparian and streamside management setbacks (RSMS). Vegetative disturbances such as thinning, pruning and felling to improve canopy openings should be allowed as necessary to maintain existing trails in RSMSs. However, no heavy equipment should operate outside the trail clearing limits here. Stormwater discharges from roads and trails to the RSMS should be minimized to the maximum extent possible. Stormwater discharges that cannot be avoided should be designed for maximum treatment, sedimentation, infiltration and level-spreading before entering the RSMS.

Avoid wet areas unless special construction techniques are used.

On federal lands, make certain to coordinate with the U.S. Forest Service. Numerous plant and animal species are protected on federal lands. Where disturbances for construction or maintenance of the trail system will occur on federal lands, it will be essential to coordinate with the U.S. Forest Service to assure that species inventory and protection protocols are followed.

PROTECT HISTORIC RESOURCES

Leave artifacts and document their location.

Remove non-historic items. Remove trash and object foreign to the historic character of the resource.

Prevent uses that degrade the historic routes.

CONTROL EROSION AND PROTECT EXPOSED SOIL AREAS

Dirt trails must be sloped so that their surfaces shed water and the materials supporting the tread remain structurally sound. Favorable drainage gradients are achieved in numerous ways, including cross-sloping (in-sloping, out-sloping, or crowning) and by means of rolling dips and water bars. It is essential to limit both slope length and gradient of road runoff to control erosion. The following drainage practices are

commonly prescribed and are essential to the long-term stability of dirt trails and protection of the resources where runoff is directed:

- **Avoid steep trail grades.** Avoid steep trail grades in excess of 12 percent. It is very difficult to control drainage on steep grades, and erosion on steep grades is expensive to remediate.
- **Maintain minimum drainage gradients.** Maintain positive surface drainage by means of out-sloped, in-sloped, or crowned sections having cross slopes of 3 percent to 5 percent. The road surface should be graded to shed water before it can run very far down the road.
- **Maintain minimum tread width for uses specified.** Maintain only the width of tread necessary to support the designated uses. Maintaining excess width can be expensive and can generate unnecessary and chronic erosion. Often, excess width can be successfully ripped and seeded to reduce the amount of bare dirt surface exposed to erosion.
- **Provide drainage at frequencies appropriate for soils and gradients.** Roll grades or undulate the road profile frequently to disperse water from the tread. Rolling dips and water bars provide essential drainage relief frequency that prevents erosion from damaging the dirt surface of the trail. Spacing depends on gradient and the erodibility of the native earth materials. Table E.7 summarizes drainage relief frequencies for low standard (non-surfaced) roads, and can be used as a starting place for determining the necessary spacing of drainage features on trails.

TABLE E.7 - ROLLING DIP/WATER BAR SPACING IN DIFFERENT MATERIALS

Trail Grade	Trail Materials			
	Coarse, rocky gravelly materials	Gravelly sands, silty sandy gravels, coarse pyroclastics	Silty clays, clays, fine sandy silty clay, weathered metavolcanics	Friable silts, fine silts and sands, fine decomposed granite soils
2-4 %	280-300 ft.	145-160 ft.	121-136 ft.	85-100 ft.
6-8%	230-250 ft.	135-140 ft.	106-113 ft.	70-75 ft.
10-12%	175-200 ft.	115-125 ft.	80-97 ft.	50-60 ft.

Source: Geotechnical/Materials Engineering Training Session, by Keller and Vanderhust, U.S.D.A. Forest Service, Region V., 1982

Notes: Spacing given is to avoid rilling in excess of one inch. In middle topographic position, reduce spacing 18 feet. In lower topographic position, reduce spacing 35 feet. On SW aspects, reduce spacing 15 feet. For each 10 percent decrease in slope steepness below 80 percent, reduce spacing 5 feet.

- **Assure that drainage facilities do not pose barriers to bicyclists.** Rolling grade dips must be "transparent" to a bike wheel--that is, elongated, so that riders roll smoothly through them--and must be angled at 45 degrees or so to the travel direction. They must fall at about 20 percent of

slope so that they are “self-cleaning,” meaning that downslope-moving sediments delivered to them will be carried off the road in runoff. The mound and dip must be armored with gravel or rock.

- **Prevent erosion at outlets of rolling dips and culverts.** Drainage outlets should be armored with rock to prevent erosion. Brush or native organic debris can be spread in lead-off ditches to slow the velocity of the runoff and facilitate the deposition of sediments. Even well-functioning rolling dips require maintenance.
- **Install pipes and ditches as a last resort; assure funds are available to maintain them.** Road and trail under-drains (culverts) and associated ditches should be used only as a last resort to achieve good drainage. This is because these facilities require regular inspection and maintenance, and severe damage can result from their failure. See Table E.7 for recommendations about culvert spacing.

TABLE E.8 - RECOMMENDED DISTANCE BETWEEN CULVERT CROSS-DRAINS (IN FEET)

Trail Grade (%)	Soils with Low to Moderate Erosion Hazard	Soils with High Erosion Hazard
0-3	500	325
4-6	400	230
7-9	325	160
10-12	280	130
12+	245	100

Source: Low Volume Road Engineering Best Management Practices Field Guide
Keller and Sherar, USFS. Jan. 2001.

- **Avoid long sustained grades.** Avoid long, sustained grades that concentrate flows. Install grade breaks to get stormwater off the trail and to allow trail users a rest.
- **Avoid discharging trail runoff onto fill slopes and unprotected soils.** Concentrated runoff from trails can cause damage to fill slopes and to unprotected soils adjacent to the trail. Discharge sites need to be carefully selected so that runoff velocity is slowed and sediments settle out. Fill slopes should be armored where runoff is discharged onto them, or the runoff should be conveyed in a down drain to a location where sediments can be deposited and the flow infiltrated.
- **Do not let watercourses run down the trail.** Descend to a water crossing from both sides of the channel so that stream flow cannot run down the road or trail.

- **Avoid floodplain stream crossings.** Cross streams at narrow spots where there is enough root support for bridge footings, the span will be out of reach of flood waters and the trail will not be subject to floodplain dynamics.
- **Select pipe sizes based on hydrologic data.** All culvert sizes should be prescribed based on the size of the contributing watershed and best hydrologic data available. If data are not available and the size of the contributing sub-watershed is 20 acres or less, add the number of acres in the sub-watershed to 8, then round up to the nearest even inch to estimate the culvert size.
- **Avoid maintenance activities that generate sediments.** To prevent the generation of sediments from runoff, only road surfaces that need to be reshaped should be bladed and only ditches that are plugged with sediments should be cleaned.
- **Season of work.** Maintenance work that results in disturbed earth should be delayed until after the wet season. Blading should be done when the trail surface materials are moist, but not dry.
- **Experienced contractors.** Maintenance activities should be carried out by experienced contractors who have had input into the maintenance contracts, attended a pre-work site meeting, have had training, and are familiar with practices to protect the local water resources.
- **Disposal of excess earth materials.** Areas for disposal of excess earth materials generated during maintenance activities should be designated in the maintenance plan.
- **Management of spoils piles.** Excess earth materials that must be stored on slopes, or where runoff from them can reach wetlands, riparian areas, streams or other sensitive resources, should be surrounded covered with plastic or a thick layer of wood chips.
- **Stabilize disturbed earth.** Areas of disturbed earth should be seeded with native plant materials and mulched as soon as possible after disturbance.

DISABLED ACCESS GUIDELINES

The Americans with Disabilities Act (ADA) of 1990 prohibits discrimination against people with disabilities. As a general rule, it is desirable to maximize accessibility along any public trail system. Specific standards have been developed for buildings and efforts are being made to develop standards for trails. However, it is recognized that constructing trails outdoors may have limitations that make meeting ADA standards difficult and sometimes prohibitive. Prohibitive impacts include harm to significant cultural or natural resources, a significant change in the intended purpose of the trail, requirements of construction methods that are against federal, state or local regulations, or presence of terrain characteristics that prevent compliance. See Table E.9 which provides guidelines for development of accessible trails.

Simple details to be considered in the planning and design process can greatly enhance accessibility to and within the planned system. Breaks in long grades, consideration of the user's eye level, minimizing

grades at drainage crossings, providing areas to get off the trail, and appropriately designed seating walls are examples of simple accessible improvements. Consultation with the physically challenged on specific design issues prior to the planning and design of trails or trailhead facilities can be very beneficial and is encouraged for every accessible project. Details to ensure a barrier free, safe and enjoyable project for the physically challenged can best be provided by a physically challenged individual(s).

TABLE E.9 - ADA TRAIL DEVELOPMENT GUIDELINES

Item	Recommended Treatment	Purpose
Trail Surface	Hard surface such as, asphalt, concrete, wood, compacted gravel	Provide a smooth surface that accommodates wheelchairs
Trail Gradient ¹	Maximum of 5%	Greater than 5% is too strenuous
Trail Cross Slope	2% maximum	Provide positive trail drainage, but avoid excessive gravitational to side of trail
Trail Width	5' Minimum	Accommodate a wide variety of users
Trail Amenities, phones, drinking fountains, ped. Actuated buttons	Place no higher than 4' off ground	Provide access within reach of wheelchair users
Detectable pavement changes at curb ramp approaches	Place at top of ramp before entering roadways	Provide visual cues for visually impaired
Trailhead Signage	Accessibility information such as trail gradient/profile, distances, tread conditions, location of drinking fountains and rest stops	User convenience and safety
Parking	Provide at least one accessible parking area at each trailhead	User convenience and safety
Rest Areas	On trails specifically designated as accessible, provide rest areas/widened areas on the trail optimally at every 300'	User convenience and safety

¹ In some cases, steeper grades may be allowed for short distances so long as appropriate resting places are provided.

ILLUSTRATED DESIGN GUIDELINES

A number of illustrations with accompanying text descriptions have been included within the Plan to graphically detail the design intent for specific situations and physical conditions. The illustrated design guidelines are intended to supplement the text design guidelines contained within this Appendix and to be provided the same flexibility in their interpretation and application. The illustrated design guidelines provide additional general guidance for the design and planning process by providing illustrated concepts or schematics, not construction specifications. The construction details for each individual trail project must be custom tailored based upon the specific needs of each project and environmental conditions.

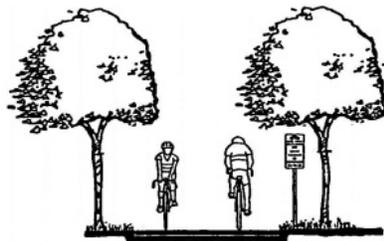
LIST OF FIGURES – APPENDIX E, DESIGN GUIDELINES

E.1 – Paved Trail, Bike Lane & Bike Route Classifications	E.16 – Infiltration
E.2 – Paved Trail	E.17 – Gabion & Geo-Web
E.3 – Paved Trail	E.18 – Trail Adjacent to Environmentally Sensitive Area
E.4 – At-Grade Crossing	E.19 – Major Crossing of Stream or Drainage
E.5 – Regulatory & Safety Bikeway Signs	E.20 – Bridge
E.6 – Bike Lane with Narrow Travel Lane	E.21 – Boardwalk
E.7 – Trail Adjacent to Street	E.22 – Culverts
E.8 – Trail Parallel to Roadway	E.23 – Log Water Bar
E.9 – Trail in Relation to Street, Residence & Stream	E.24 – Fences
E.10 – Trail Adjacent to Development	E.25 – Bicycle Racks
E.11 – Trail Concept Through Clustered Subdivision	E.26 – Informational Signage
E.12 – Trail Adjacent to Railroad	E.27 – Information Kiosk
E.13 – Creek Trail on Slope	E.28 – Interpretive Sign
E.14 – Trail Side-Slope Treatments	E.29 – Trailhead without Parking

E.15 – Tread Construction, Stabilization & Steps E.30 – Trailhead with Parking Area

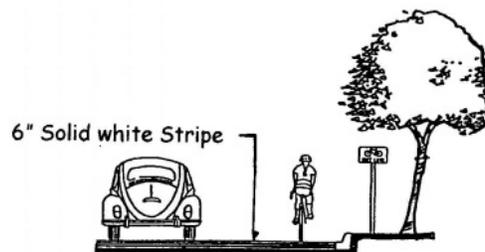
E.1 GENERAL BIKEWAY CLASSIFICATIONS

Three basic classes of on-street bikeways are contained within the Plan and routinely used throughout the state as the basis for bikeway planning and design. Unlike the off-street recreational trail guidelines contained within the Plan, these three classes of on-street bikeways and the guidelines and standards for each established by the California Department of Transportation are afforded much less flexibility. Consistency with the state-established guidelines and standards is necessary to provide safe bicycling opportunities and cohesive connections with adjoining bikeway networks.



Paved Trail

Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.



Bike Lane

Provides a striped lane for one-way bike travel on a street or highway.

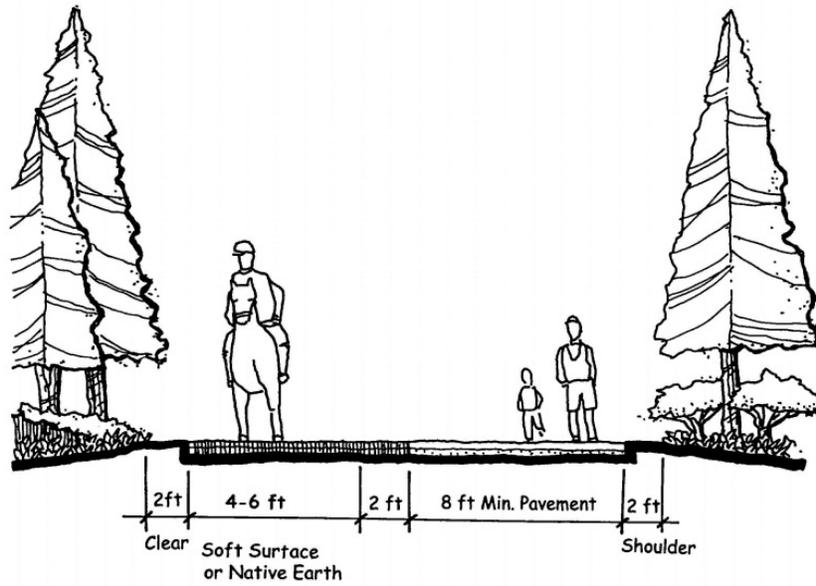


Bike Route

Provides for shared use with pedestrian or motor vehicle traffic.

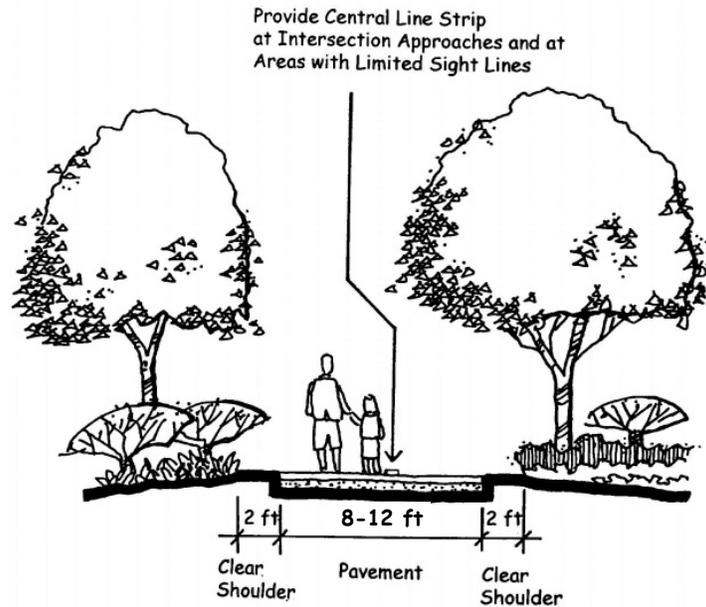
E.2 PAVED TRAIL

Pavement width may vary dependent upon the type and intensity of traffic anticipated, provided a minimum 8' paved section is constructed for dedicated Class I facilities.



E.3 SHARED CLASS I BIKE PATH

A Class I bike path with a separated dirt trail creates the best opportunity for the most types of users. A 4-6' width is appropriate and necessary for equestrian use. A 2' wide dirt trail is adequate to accommodate walkers and joggers. In either case, a 2' separation should be provided to minimize user conflicts and keep any loose material from entering the paved surface. Tighter turns, shorter sightlines, more grade changes and a less linear alignment are all encouraged for the dirt trail to provide a more interesting experience.

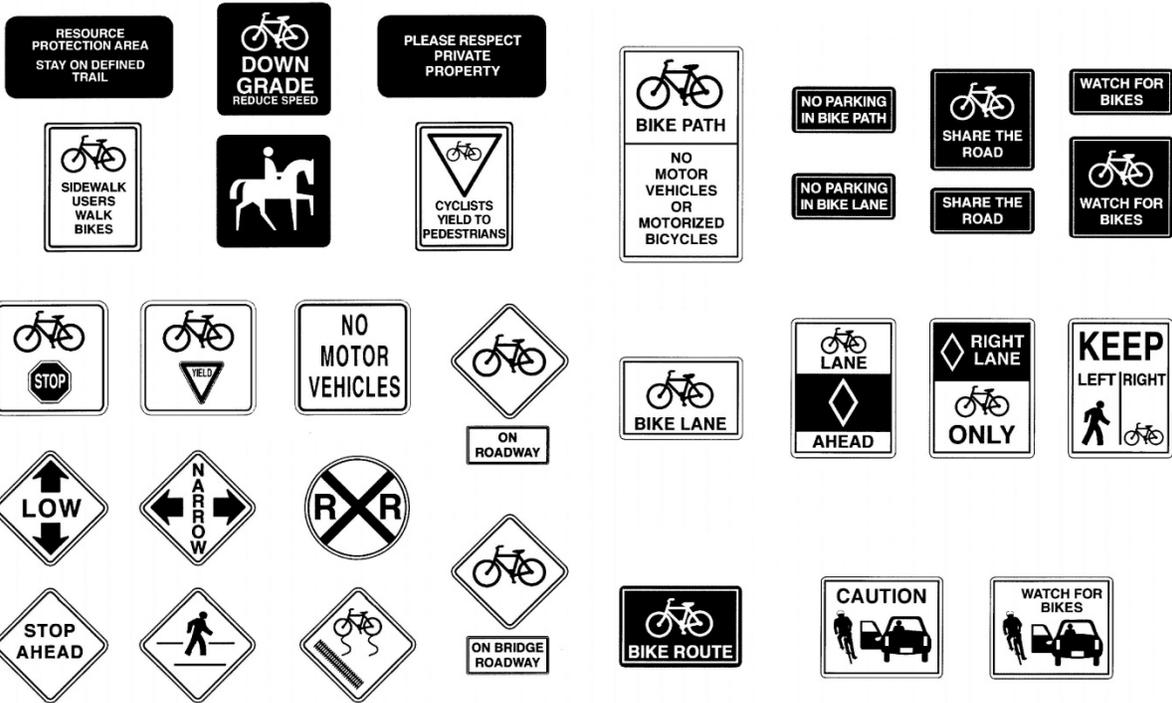


E.4 AT-GRADE TRAIL CROSSING

Although to be avoided when feasible, roadway crossings will be necessary for some planned segments. Use of existing roadway crossings are encouraged at controlled road intersections in lieu of new crossings and the associated need for new crossing control improvements. Low volume/speed crossings are preferred. Consideration for adequate sight-lines and vehicular stopping distances is important. Trail crossings of private driveways require particular attention to user safety, requiring either caution or yield (either trail user to driveway user or vice-versa) signs and/or cautionary pavement striping.

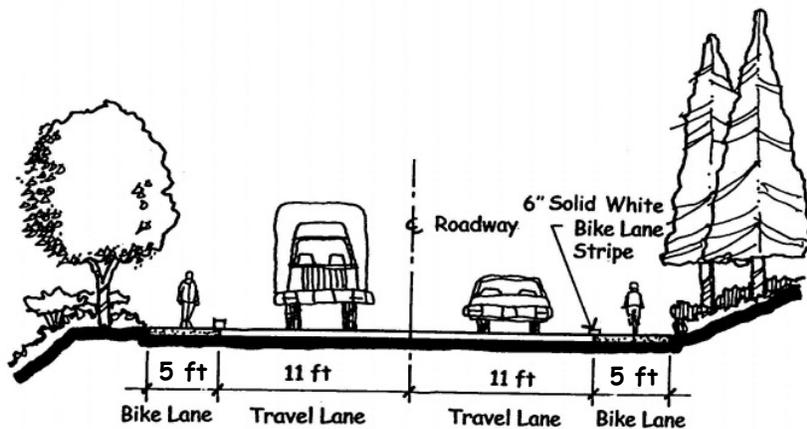
E.5 REGULATORY & SAFETY BIKEWAY SIGNS

Regulatory signs inform bicyclists, pedestrians, equestrians and motorists of laws or regulations which are not always obviously apparent to the user. Safety signs provide warning or caution of a possible hazardous condition, like the 'caution: downhill' bicycle sign show at right. They should be erected at the point of their applicability (50' prior for a hazard warning), clearly indicate the requirement and be easily visible and legible. They should be conservatively used to avoid excess signage and the resultant loss of effectiveness. Uniformity in size, height, location, design and colors throughout the system is essential to convey a clear, simple message to all users. All signs should be reflectorized and sized appropriately based upon the type of message for the intended user(s). The California Manual of Uniform Traffic Control Devices provides current signage standards.



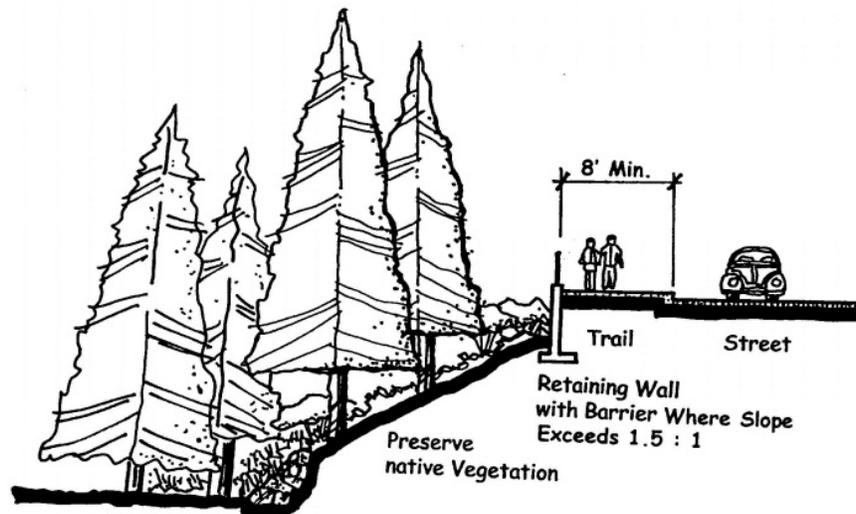
E.6 BIKE LANE WITH NARROW TRAVEL LANE

Narrow travel lanes aid in reducing traffic speeds and can more efficiently utilize existing pavement area. They will most commonly be applied in residential neighborhoods and low-traffic commercial areas. In either case, a minimum 4' wide bike lane should be maintained and striped / signed consistent with Table E.4 within Appendix E, Design Guidelines.



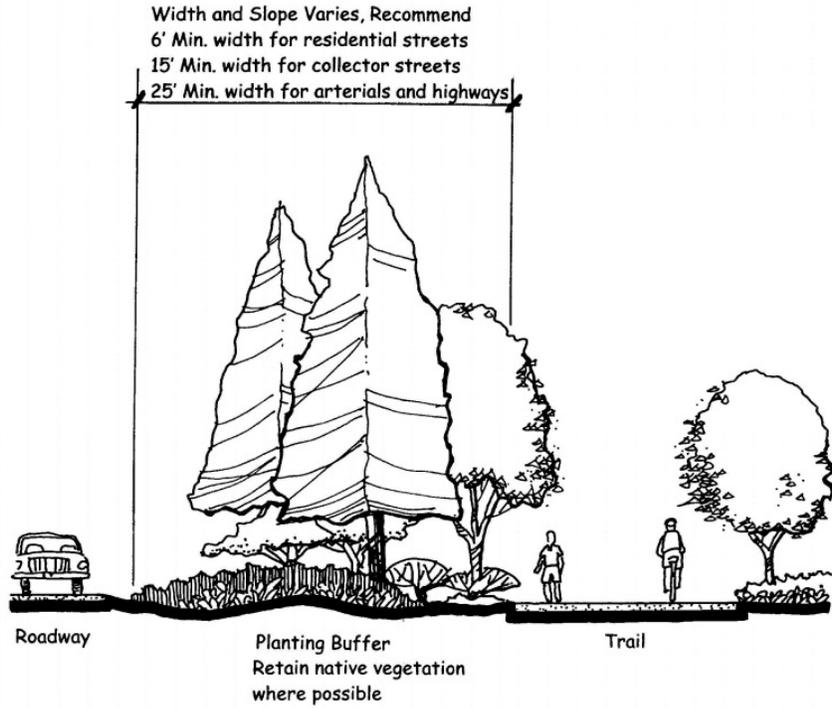
E.7 TRAIL ADJACENT TO STREET

Portions of some trail segments will necessarily be located directly adjacent to roadways due to steep slopes, waterways or other physical/ environmental constraints. These expanded sidewalk trails should consider both pedestrian and bicycle traffic and safety, utilizing a separate on-street bike lane/route when feasible to accommodate bicycle use. If a separate bike lane/route is not available, the trail must be of sufficient width to prevent conflicts between bicyclists and pedestrians. In this situation, a one-way bicycle lane/route should be striped/signed on the opposite side of the street to promote one-way bicycle use of the sidewalk (with two-way pedestrian traffic).



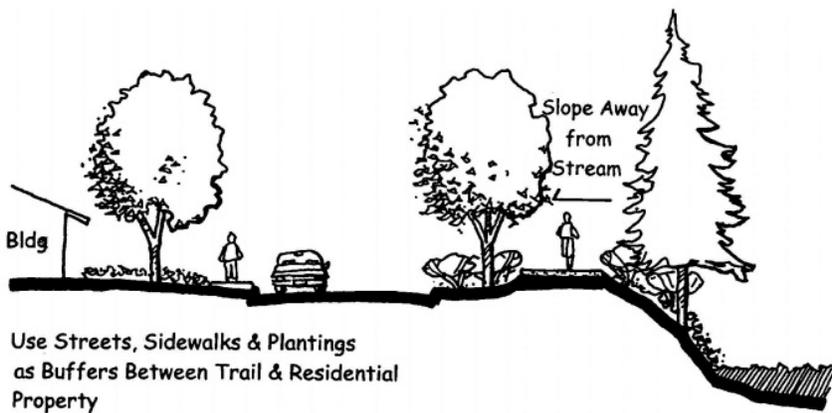
E.8 TRAIL PARALLELING ROADWAY

The type and width of separation (from the roadway) provided for trails paralleling roadways will vary dependent upon site-specific conditions. High traffic volume roadways will warrant a greater separation than slower speed, low-use roadways. A separated trail (in lieu of that adjacent to the roadway shown in Figure 8.8) protects users from roadway snow removal. Native vegetation and existing features (rock outcroppings, rolling topography) should be used whenever possible and supplemented by additional landscape screening and buffering to promote a more enjoyable and safer user experience.



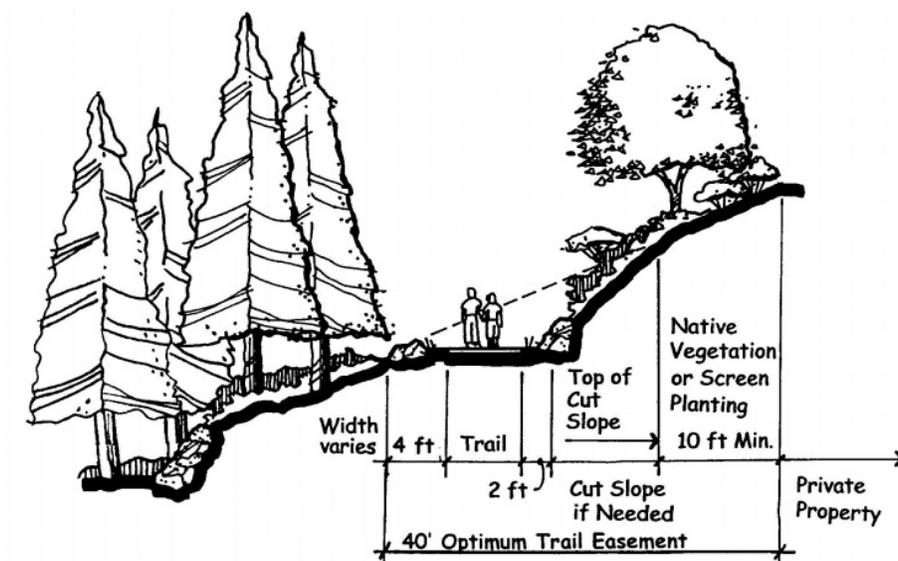
E.9 TRAIL IN RELATION TO STREET, RESIDENCE & STREAM

Existing natural and man-made features should be used as a buffer between trails and private property. Where possible locate trails adjacent to the front yards streets and / or public open spaces rather than adjacent to private back yards.



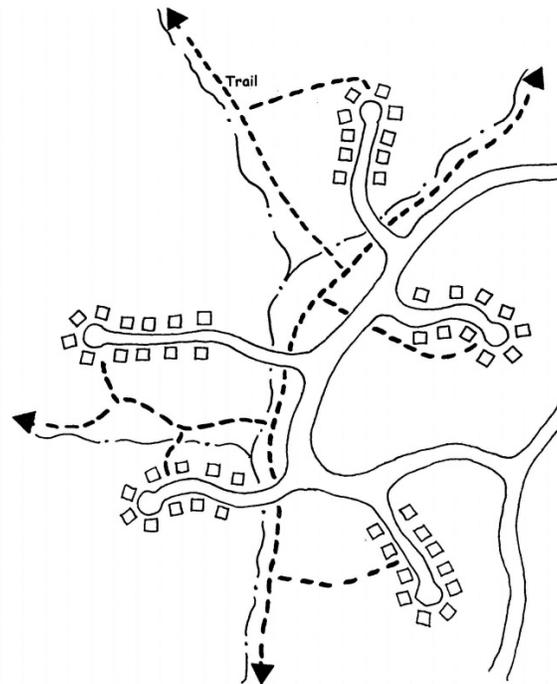
E.10 TRAIL ADJACENT TO DEVELOPMENT

New trail segments located adjacent or in close proximity to existing developed property (particularly residential) should utilize grade separations, landscaping and / or fencing to help buffer and screen the trail corridor from existing development, to minimize the possibility of trespass onto private property and to ensure the maintenance of privacy and security.



E.11 TRAIL CONCEPT THROUGH CLUSTERED SUBDIVISION

When designing the trail system, consider the alignment of a primary through-trail with secondary spur trails providing access to individual development clusters. Multiple connections from each individual residential unit with the primary / main trail should be discouraged through a well-designed and easily accessible spur trail(s). Open space areas created with clustered development provide the best opportunity for linear recreational opportunities such as bike paths and recreational trails.

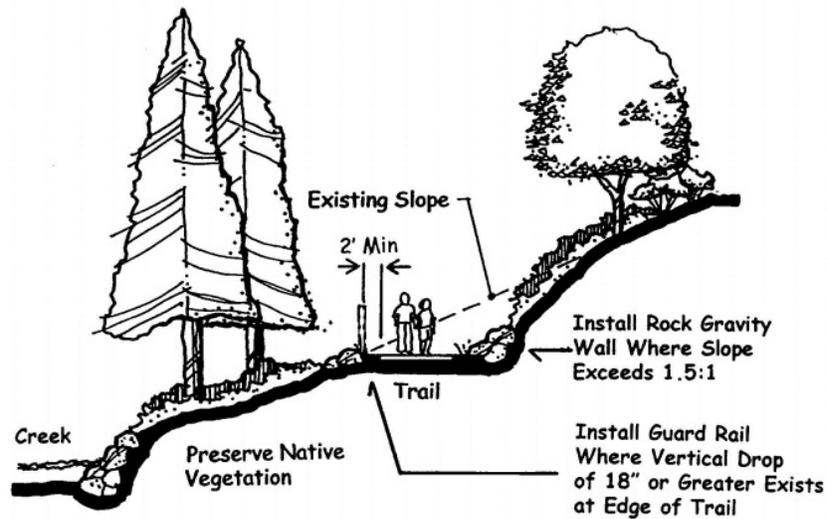


E.12 TRAIL ADJACENT TO RAILROAD

Trails in close proximity to railroads require close coordination with the Union Pacific Railroad and no pre-established standards apply. Rather, trails are designed on a case-by-case basis, based on existing constraints such as topography, environmental resources, existing rights-of-way and other factors.

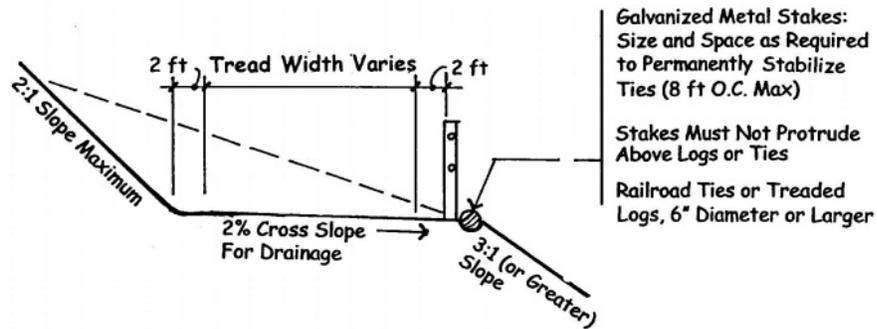
E.13 CREEK TRAIL ON SLOPE

Locating the trail on the top of the creek bank is the preferred location when possible. When trail segments adjacent to waterways must be located on a slope, the less steep the better. Steep slopes should be avoided. Slope cuts should be minimized and existing vegetation preserved to the extent possible by utilizing the natural topography of the site without creating large undulations in the trail surface/grade/profile. Guardrails should only be installed when warranted due to safety concerns.

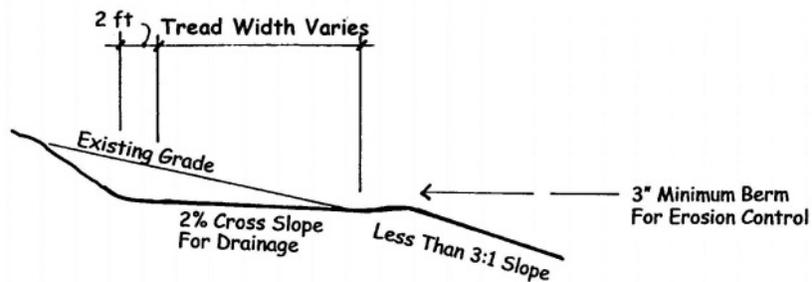


E.14 TRAIL SIDE-SLOPE TREATMENTS

Topographic conditions should be carefully considered to maximize protection of the trail, minimize supporting trail structures (ie: retention devices) and protect the surrounding environment. Trail surfaces should be constructed to sheet flow from the inside to the outside of the trail (ie: outslope) without creating concentrated flows on the down side of the trail. Crowning can be utilized for steep trails. Side swales and berms can also be used to prevent water from reaching the trail surface and provide a lower place on the trail to drain. An inside swale is only necessary when concentrated or heavy flows may wash onto the trail. Grade breaks, considering the existing natural topography and utilizing the natural topography, creating low points in longer stretches of trail on grades can prevent washouts.



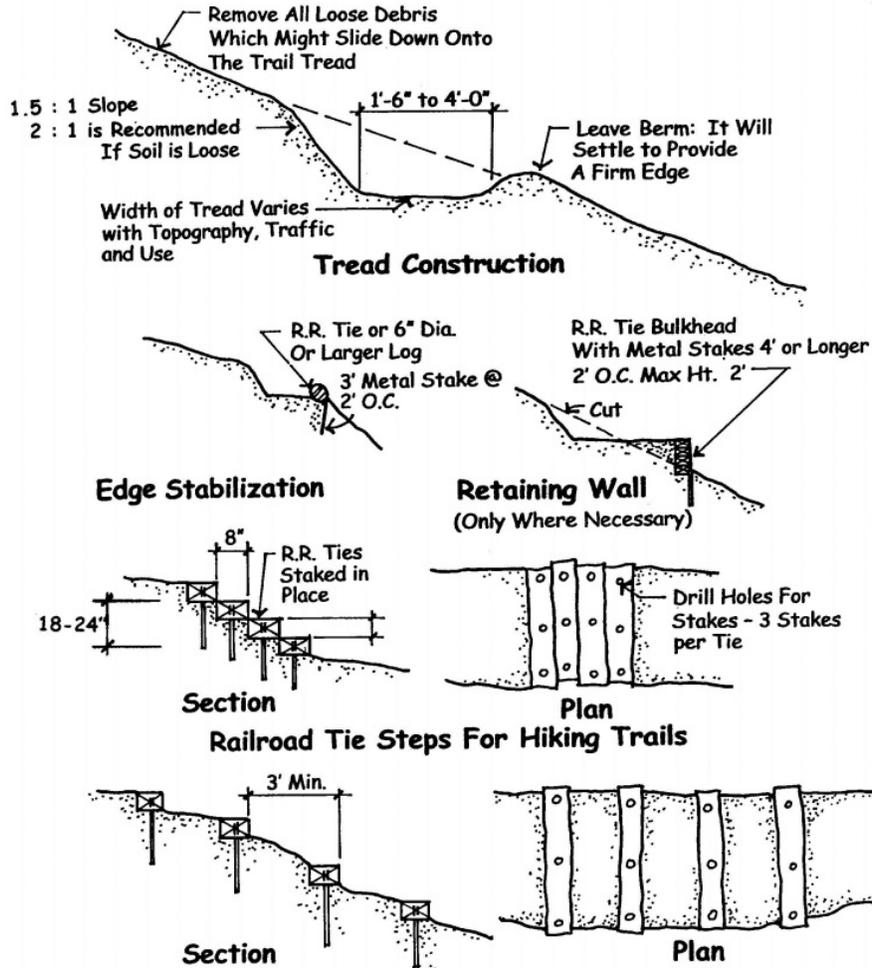
Swale and Berm Typical Size. Actual Dimension Will Be Determined By Field Conditions.
Drainage and Irrigation Systems For All Up Slope Shall Be Designed To Prevent Run-off To Trail



Actual Dimension Will Be Determined By Field Conditions.
Drainage and Irrigation Systems For All Up Slope Shall Be Designed To Prevent Run-off To Trail

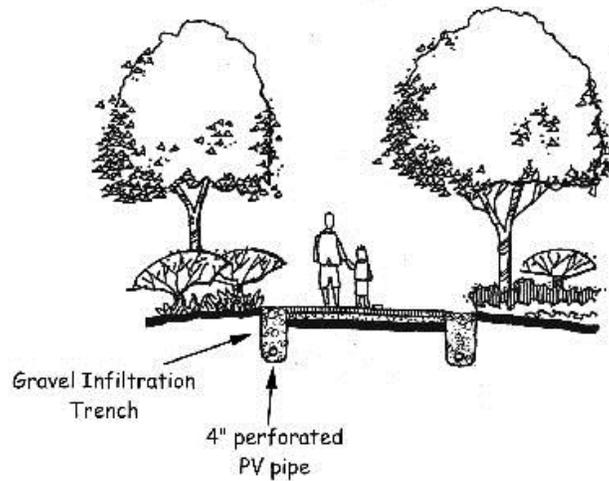
E.15 TREAD CONSTRUCTION, STABILIZATION & STEPS

The stabilization of cuts / fills created with new trail construction is necessary to prevent erosion, protect water quality and to maintain the trail surface. Use of existing vegetation and revegetation to supplement edge stabilization and retention devices will aid in preventing erosion and create a more natural trail corridor. Revegetation with native species (unless temporary irrigation is provided) will be necessary for steep disturbed slopes. Slope stabilization materials can consist of wood, rock or indigenous or natural materials designed to blend with the natural surroundings. Vertical retention devices should only be used when necessary. Railroad tie (or other suitable natural material such as stone) steps can be used for short, steep grades. Shared use trails should utilize a larger tread versus a reduced 8" tread for pedestrian trails. Wooden stairs should be constructed of pressure treated or an approved rot resistant timber.



E.16 INFILTRATION

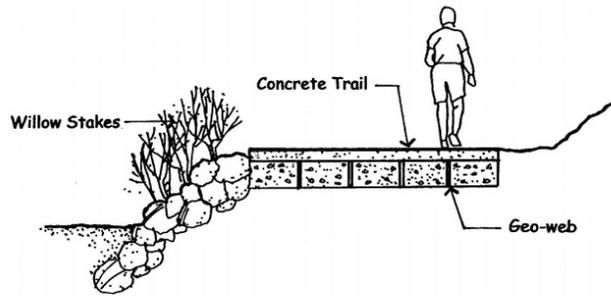
Careful consideration of water runoff and treatment in the trail design and construction process is crucial to prevent impacts to water quality and to protect the stability of the trail surface and edges. Infiltration trenches for impermeable trail surfaces (shown in figure) can be used on a single (side slope) side or both (crowned) sides of a trail dependent upon the design and construction utilized for a particular trail segment. Trenches can be used in conjunction with or supplemented by catch basins located on lower sections of a trail segment.



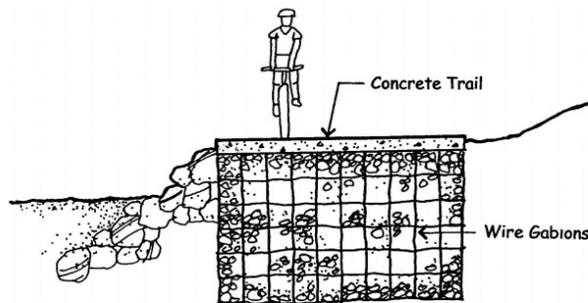
Trail Infiltration Detail

E.17 GABION TRAIL CONCEPT & GEO WEB

Rock-filled wire gabion construction should be used when more-natural rock rip-rap or other retention treatment is not feasible due to physical conditions or where native rock is too small or too round for stacking. They can be stacked into walls or laid into revetment. They are low cost, easily constructed, compatible with aquatic environments and habitat, require little foundation preparation and are permeable to water.



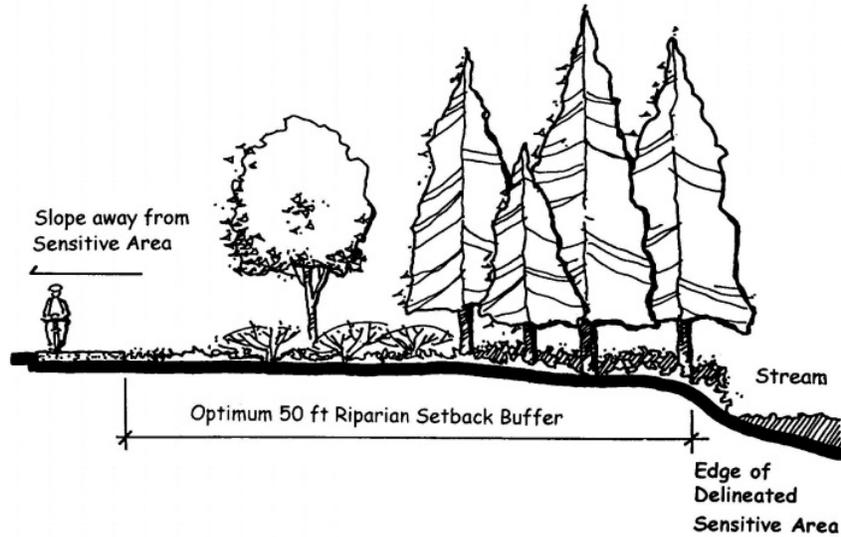
Built-Up Trail Concept



Gabion Trail Concept

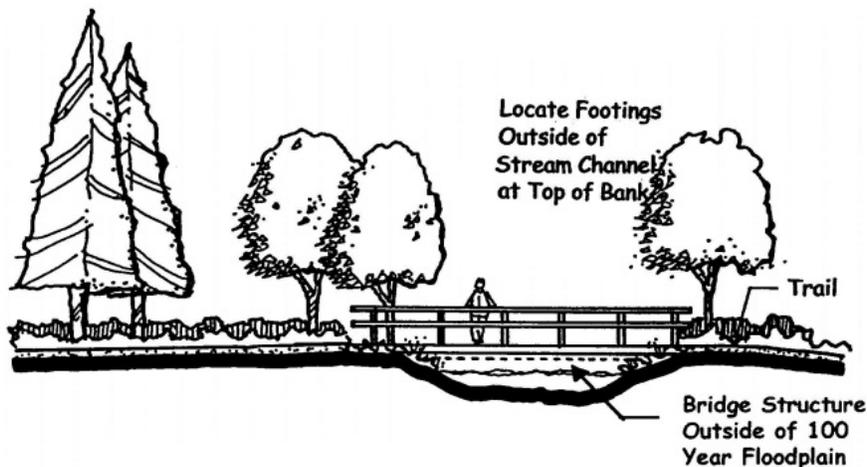
E.18 TRAIL ADJACENT TO ENVIRONMENTALLY SENSITIVE AREA

Wetlands, floodplains and other environmentally sensitive areas should be avoided if at all feasible and provided some degree of separation from the trail. When feasible, a minimum of 50' from the edge of the floodplain is recommended for optimum protection. Existing vegetated areas are preferred to create the most natural and compatible buffer. Fences or other physical barriers should only be used to protect a particularly sensitive environmental resource.



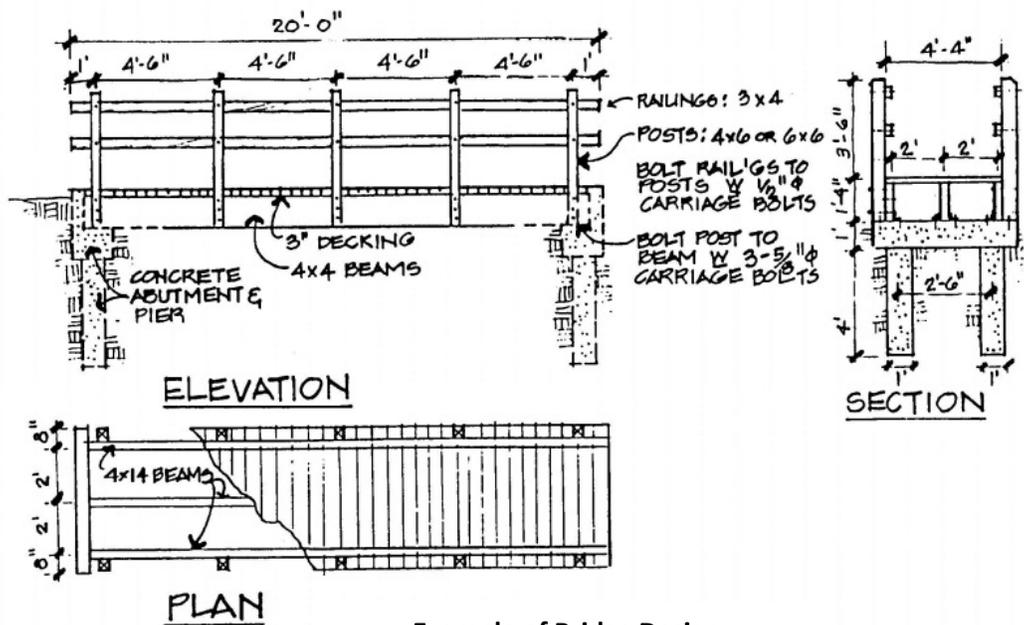
E.19 MAJOR CROSSING OF STREAM OR DRAINAGE

Bridges (in lieu of culverts or boardwalks) should be used to cross natural or man-made continual running water, areas of riparian or wildlife value or when they provide a user interest and enjoyment. They must be designed for each individual situation and be solid, sturdy and grounded. Due to their association and proximity to water, only galvanized hardware, bolts with washers and pressure treated lumber should be used. Handrails being the exception, requiring a smooth finish. The design should be pleasing to users and compatible with the surrounding environs. Abutments should be located as high on the walls of the channel as possible to decrease their visibility and minimize obstruction of the channel. Bridges should span the entire 100-year floodway.



E.20 BRIDGES

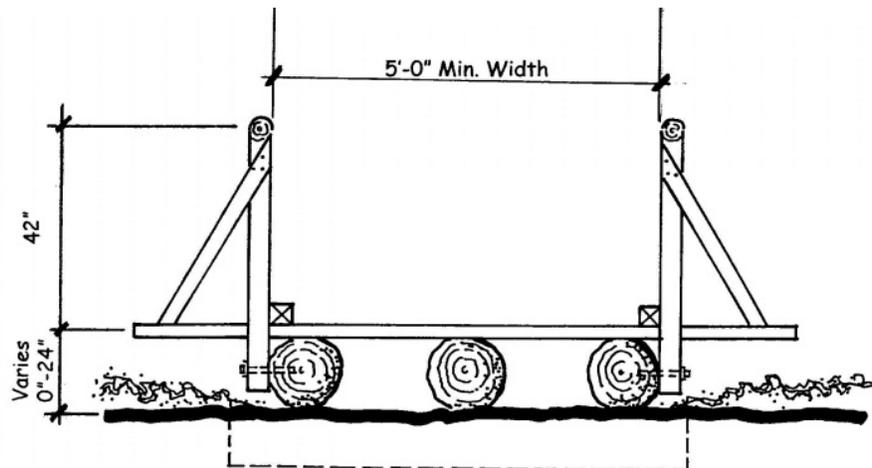
Bridge surfacing can vary dependent upon anticipated user needs (equestrians, bicyclists). Natural materials and finishes are encouraged to best complement and blend with the surrounding environment. Tread width and surfacing may vary dependent upon user(s) needs, particularly for equestrian use and / or disabled access necessitating wider widths and better traction surfacing. A recycle rubber surface can be used when heavy equestrian use is anticipated.



Example of Bridge Design

E.21 BOARDWALK CONCEPT SECTIONAL VIEW

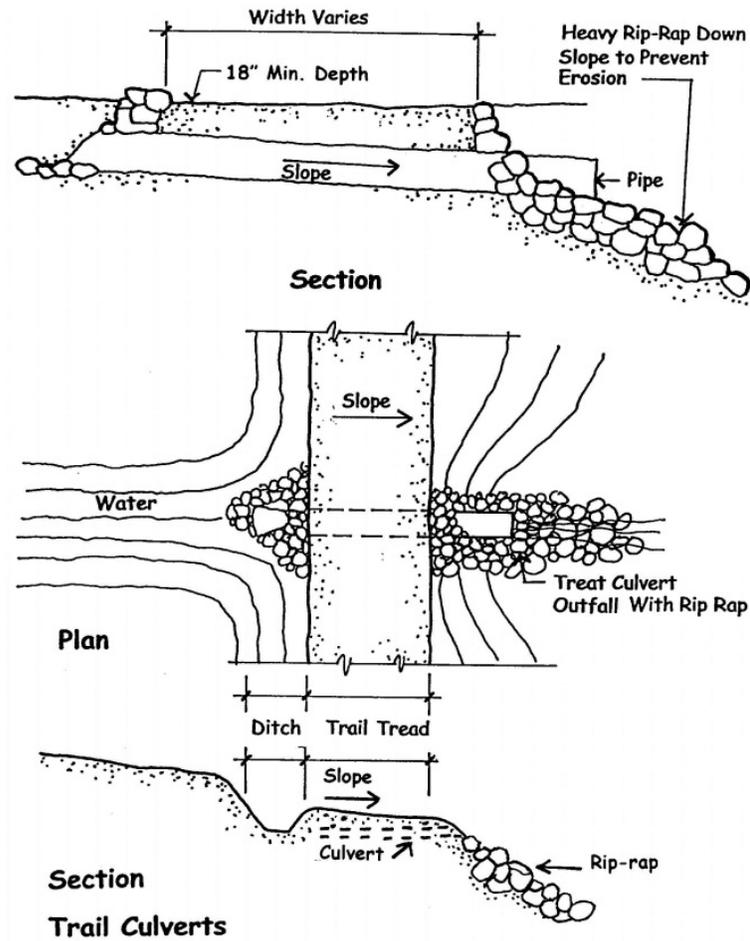
Natural materials should be used to be compatible with the sensitive environment commonly associated with the use of boardwalks. Railing should be used only when necessary to prevent trespass onto sensitive or unsafe areas, otherwise a 4"x4" curb will suffice. Railings should be smooth. Stepping stones can also be used for low-traffic, pedestrian only trails to cross stable areas in short stretches, typically no longer than 25'.



Example of Boardwalk Concept

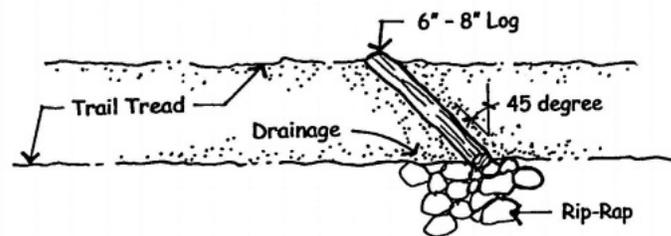
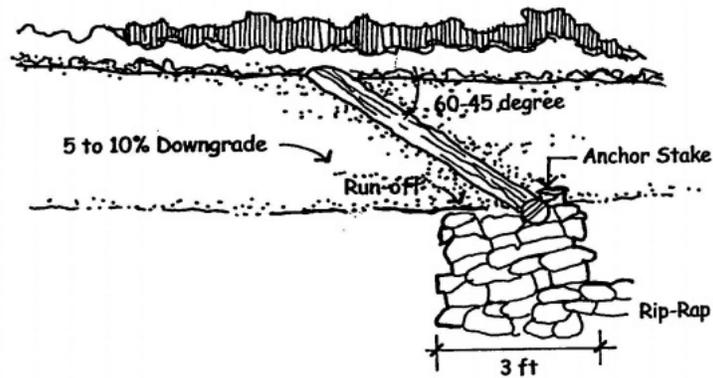
E.22 TRAIL CULVERTS

Drainage crossings should be carefully designed to avoid the destructive effects upon the trail of concentrated water flows. Culverts should be adequately sized to accommodate projected water volumes and include native stone rock rip-rap headwalls / outfalls to protect the edges of the trail and downhill land area. Under certain conditions an unimproved swale crossing (very low flows), concrete swale (w/in built environment), stone paving (naturally rocky area, low use) and channelization (occasionally wet areas) can be used in lieu of culverts. These treatments should only be used for pedestrian trails and carefully consider the impact upon the surrounding wetland ecology.



E.23 LOG WATER BAR

Rolling dips can be used in lieu of log water bars, particularly when mountain bicycle use is anticipated as they divert water off of the trail with minimal affect on trail users. In both cases, installation must carefully consider the cross slope of the trail and topography of the surrounding area. Rubber water bars can also be used for high volume multiple use trails. See also the spacing specifications contained in Table E.6.



E.24 FENCE TYPES

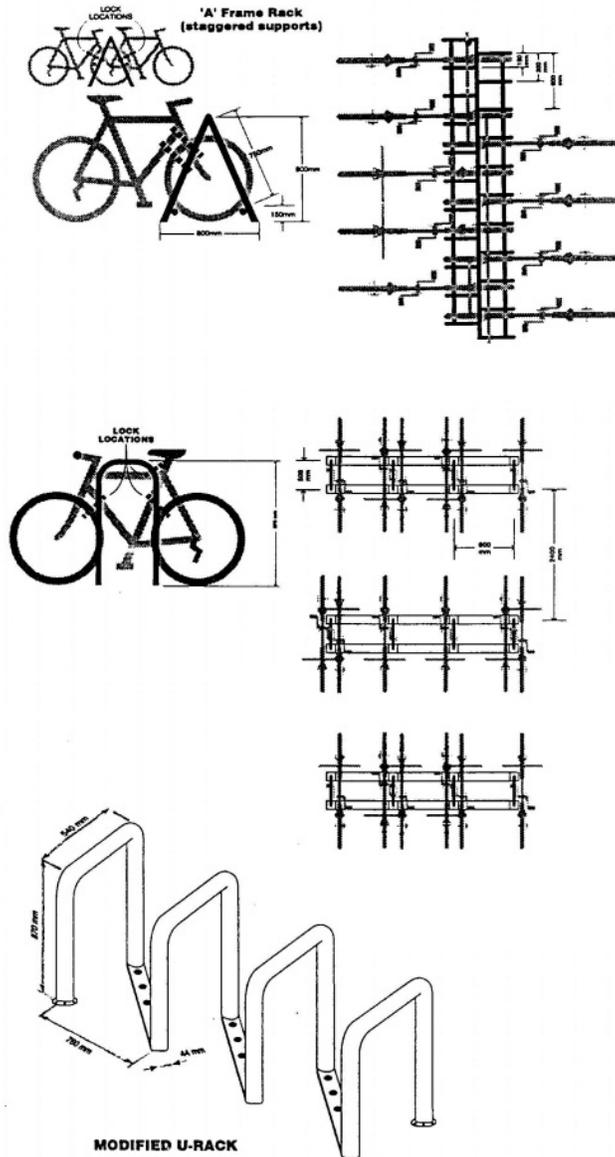
Fences should be used sparingly throughout the system and only when providing a specific benefit to adjoining private or environmentally sensitive lands. A segment-by-segment fence analysis should accompany each project proposal. Fence design should directly relate to its intended function. Fences should be supplemented with existing and / or new native landscaping. Small fence sections can be used to prevent short-cutting or draw a user to a specific focal point. A low-lying single rail fence can be used as a reminder for users to stay on the established trail. Long stretches of fencing should be avoided to prevent narrow corridors and, where possible, be located on only one side of the trail. Fences should be no closer than 5' to the trail edge and a minimum width of 20' provided when fences are on both sides of the trail.



E.25 BICYCLE RACKS

A wide variety of bicycle parking devices are available and acceptable. Bicycle racks should be designed to adequately support and secure bicycles, be a minimum of 5' in width (each) and be paved. Racks should be located in easily accessible and safe locations in close proximity to the entrances of both commercial and residential developments. A physical separation or barrier should be placed between bicycle parking

facilities and automobile parking areas. An enclosed bicycle locker system can also be used for outside longer-term bicycle parking.



E.26 INFORMATIONAL SIGNS

These signs are intended to be used both as trailhead markers and internally throughout the system. When used as a trailhead marker (in lieu of an information kiosk), the sign should be constructed to a 5'-8' height (dependent upon visibility) with either single or double supporting wood posts. Signs should be

constructed of painted metal with a wood backing and finished with a consistent font, background color and contrasting border color. Small signs should be 18"x24", large signs 30"x42" (exterior dimensions, excluding logo).

Smaller 'bollard type' information signs should be used within the system to provide distance, direction and user information. They can also be used for small trailheads in lieu of either the post mounted or kiosk signs. The 3" square information symbols provided within each of the two bollard type signs (12" and 6" square shown) should be constructed of either carsonite or metal, recessed ½" deep and epoxyed into place.



E.27 INFORMATION KIOSK

Kiosks should be placed at major trailhead locations (ie: those with parking) and occasionally throughout the system to provide educational opportunities. They should be designed and constructed with natural materials and colors to best complement the surrounding environment. Height and mass should be minimized to that necessary to adequately convey the intended message or information.



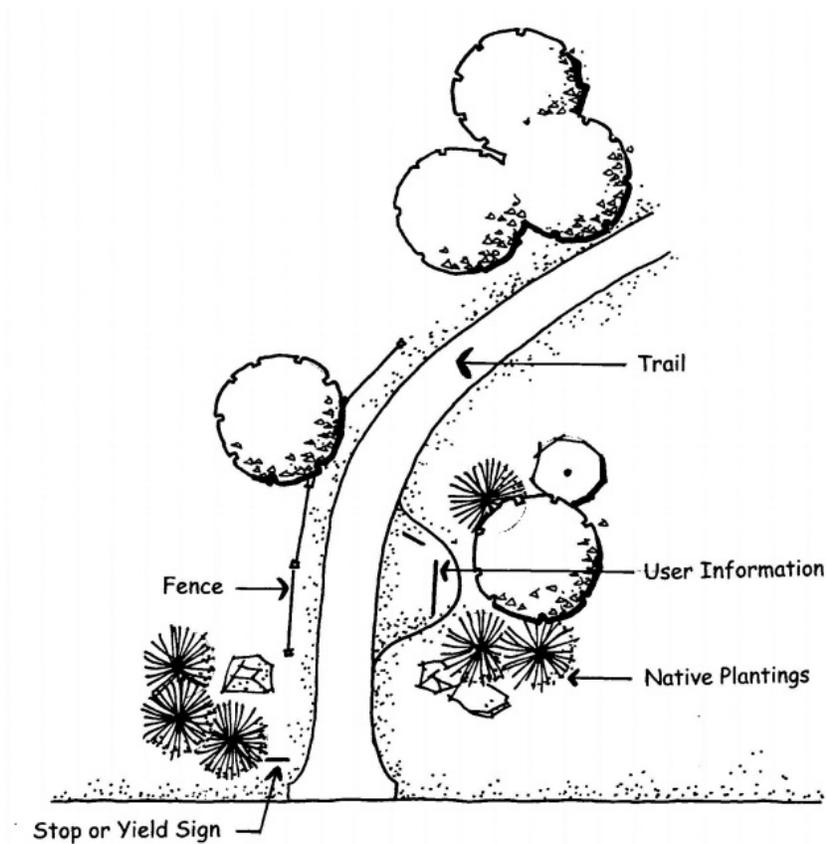
E.28 INTERPRETIVE SIGN

Signs educating trail users about environmental resources or historic place / events should be used often throughout the system. Interpretive signs should be placed in close proximity to the area of the message being conveyed, maintain an aesthetic backdrop and be anchored to the site with vertical elements such as larger trees or rocks.



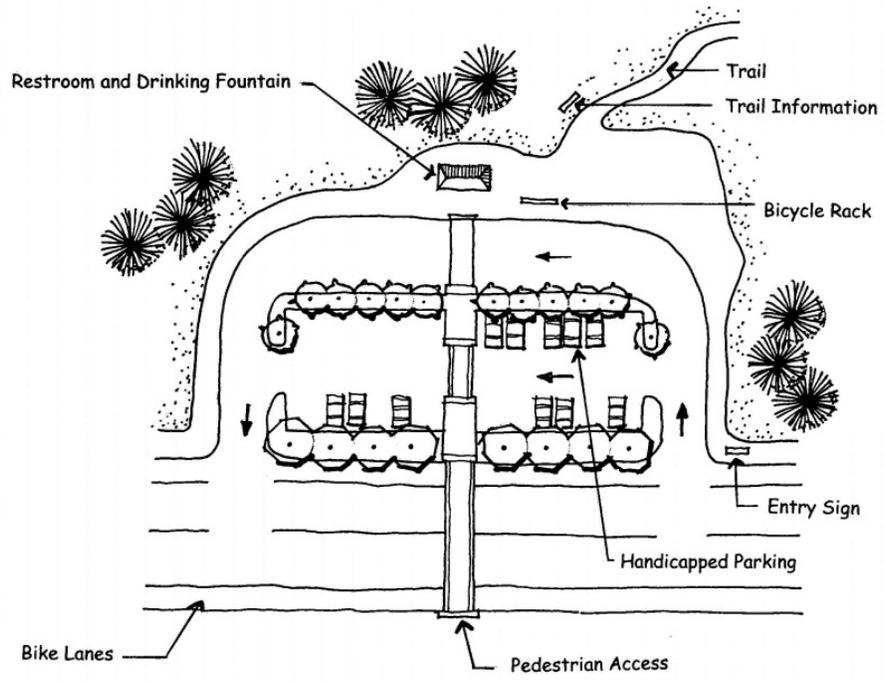
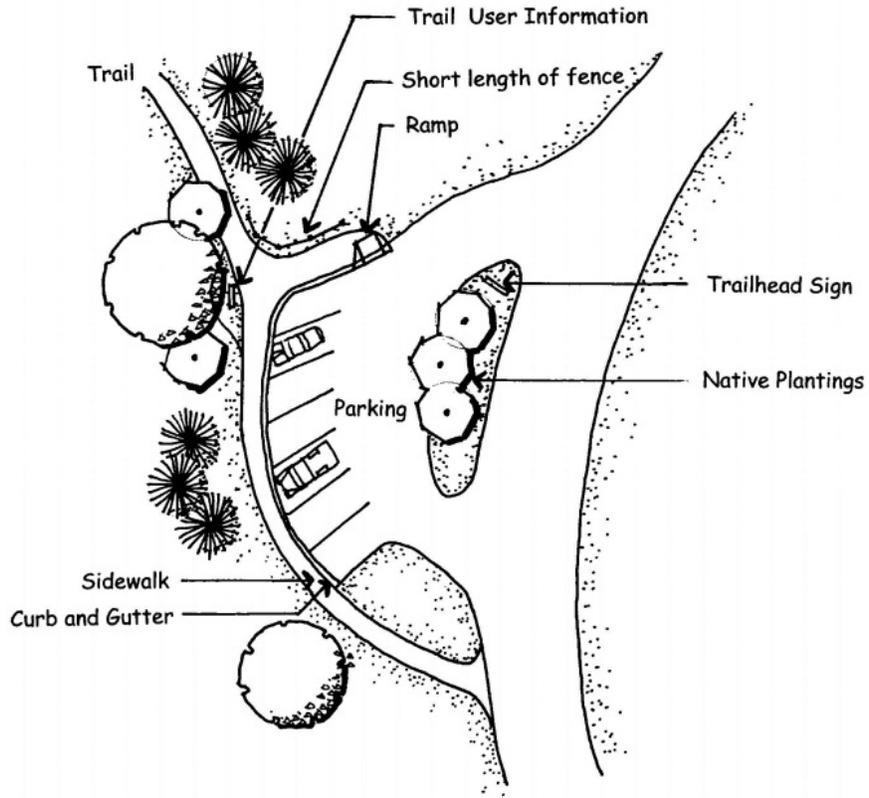
E.29 TRAILHEAD WITHOUT PARKING

Trailheads without parking delineate an entrance into the trail network within areas of nearby public parking or within residential subdivisions where parking areas are not necessary or would be incompatible with the surrounding neighborhood. A user information area should be provided for any informational signs or other supporting facilities, backed with native vegetation, rocks and fencing if necessary.



E.30 TRAILHEADS WITH PARKING AREA

Parking areas should be visible from the adjoining roadway, but not a dominating or degrading aesthetic feature. Sites should be chosen based upon their ability to accommodate a parking area considering its size, topography, environmental sensitivity and proximity to surrounding land uses. Parking layout should be organized in a logical and space-saving manner, varying in design from a simple roadside parking area to a one-way looped parking area with diagonal parking dependent upon the anticipated demand. Consideration for equestrian use, including trailer parking and maneuvering, should be made when designing trailhead parking areas for trail segments accommodating equestrian use. Graveled or paved parking areas provide superior snow removal and lessen impact to air quality and should be used in lieu of a dirt surface for larger parking areas.



APPENDIX F:
ON-STREET BIKEWAY PROPOSAL AND
EVALUATION PROCESS

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APPENDIX F: ON-STREET BIKEWAY PROPOSAL & EVALUATION PROCESS

Most on-street bikeway projects, with the exception of Caltrans initiated projects on state highways, will be initiated by the Town of Truckee. The town staff is responsible for implementing the on-street bikeway proposal and evaluation process, involving a varying degree of public notification and environmental review dependent upon the scope of the proposed on-street bikeway project.

Many on-street bikeway projects will entail only striping and/or signing of the existing roadway, a scope of work not subject to the review requirements of the California Environmental Quality Act (CEQA) and provided public notification and review as a component of the Master Plan public hearings, workshops and advertisements. Simple signing and/or striping of the existing roadway to implement the Class II and Class III bikeway contained within the Master Plan will involve no additional formal public notification.

Implementation of other Class II and Class III bikeways will necessitate road widening, intersection improvements or drainage improvements warranting specific formal public notification and CEQA review. An analysis of the potential environmental impacts associated with the specific on-street bikeway project will be conducted by the town staff and, if not exempt from CEQA, the appropriate environmental document prepared, noticed and circulated. The Town Council will be the decision body to approve, disapprove or modify the project and make the final environmental determination. For projects involving widening, street improvements or private property impacts, construction notice to all property owners adjacent to the project roadway will be provided by door hangers and/or informational signage prior to the start of construction.

For all on-street bikeway projects, the Town is committed to following a 'good neighbor' policy. On-street bikeway projects involving physical impact to private property owner improvements will be personally contacted by the town staff as these impacts are identified in the field. This contact is not only intended to provide notice to property owners of upcoming roadway improvements, but also to open dialogue with property owners about reasonably available solutions to limit impacts upon existing improvements. The need for additional public notification will always be considered for every on-street bikeway project on a case-by-case basis by the town staff.

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APPENDIX G:
TOWN COUNCIL RESOLUTION

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Town of Truckee
California

TOWN COUNCIL RESOLUTION 2015-42

A RESOLUTION OF THE TOWN OF TRUCKEE TOWN COUNCIL
APPROVING THE TRAILS AND BIKEWAYS MASTER PLAN AND
MITIGATED NEGATIVE DECLARATION

WHEREAS, Town of Truckee Town Council adopted a Truckee Trails and Bikeways Master Plan on April 4, 2002, by Resolution No. 2002-17; and

WHEREAS, Town of Truckee Town Council approved prior amendments to the Truckee Trails and Bikeways Master Plan on May 17, 2007, by Resolution No. 2007-20; and

WHEREAS, Town of Truckee Town Council approved prior amendments to the Truckee Trails and Bikeways Master Plan on November 27, 2012, by Resolution No. 2012-43; and

WHEREAS, Town of Truckee has now proposed to comprehensively amend the Truckee Trails and Bikeways Master Plan for the purpose of updating the entire document; and

WHEREAS, the Planning Commission is responsible for the review and consideration of the proposed amendment and to forward a recommendation to the Town Council; and

WHEREAS, at its August 18, 2015 hearing, the Planning Commission unanimously recommended approval of the Master Plan to the Town Council; and

WHEREAS, a program-level Mitigated Negative Declaration (MND) has been prepared, which tiers off the initial Trails and Bikeways Master Plan Environmental Impact Report; and

WHEREAS, the Master Plan MND is a program-level environmental document limited in specificity to the depth associated with evaluating environmental impacts from a program-level standpoint. This document significantly relies on the analysis from the Master Plan EIR and incorporates all mitigation measures.

NOW THEREFORE BE IT RESOLVED, the Town Council hereby adopts the 2015 Truckee Trails and Bikeways Master Plan as detailed in attached Exhibit A; and

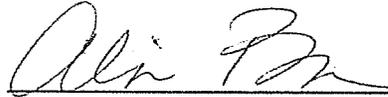
NOW THEREFORE BE IT FURTHER RESOLVED, the Town Council hereby adopts the draft Mitigated Negative Declaration in support of the Trails and Bikeways Master Plan as detailed in attached Exhibit B; and

The foregoing Resolution was introduced by Council Member Flora, seconded by Council Member Wallace Dee at a Regular Meeting of the Truckee Town Council, held on the 22nd day of September, 2015 and adopted by the following vote:

AYES: Council Member Flora, Council Member Wallace Dee, Council Member Goodwin, Vice Mayor deRyk Jones, and Mayor Barr.

NOES: None.

ABSENT: None.



Alicia Barr - Mayor
Town of Truckee Town Council

ATTEST:


Judy Price, MMC, Town Clerk

Attachments:

1. Exhibit A – 2015 Truckee Trails and Bikeways Master Plan
2. Exhibit B – Draft Mitigated Negative Declaration